EPA Registration File No. 74530-74

PROCESSING REQUEST

Reg # 74530-TU (74) **Decision #**

Description:

New Product Registration

Electronic Label & Letter (see PPLS):	OR	**Non Electronic Label & Letter** (Scanning required):
☑ Dated: 12/28/16		☐ Dated:

Only one label type should be selected

Other Materials Sent (see jacket):

☑ New CSF(s) Dated: Basic - 2/11/16

☐ Other:

File this coversheet and attached materials in the jacket. It must be well organized and clipped together, NOT STAPLED. Then give the jacket with the coversheet and materials to staff in the Information Services Center (ISC) (Room S-4900). If a jacket is full or only available as an image, please file materials in a new jacket and bring it down to the (ISC). For further information please call 703-605-0716.

Reviewer: Karen Sameki

Division: RD

Phone: 703-347-8825 **Date:** 12/28/16

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Registration Division (7505P)
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460

NOTICE OF PESTICIDE:
_X_ Registration
___ Reregistration
(under FIFRA, as amended)

EPA Reg. Number:	Date of Issuance:
74530-74	12/28/16

Term of Issuance:
Conditional

Name of Pesticide Product:
Helmet

Name and Address of Registrant (include ZIP Code):

Dr. Bert Volger
Helm Agro US, Inc.
401 E Jackson St., Suite 1400
Tampa, FL 33602

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA section 3(c)(7)(A). You must comply with the following conditions:

1. Submit and/or cite all data required for registration/reregistration/registration review of your product under FIFRA when the Agency requires all registrants of similar products to submit such data.

Signature of Approving Official:

Kathryn V. Montague

Kathryn Montague, Product Manager 23
Herbicide Branch
Registration Division (7505P)
Office of Pesticide Programs

Date:

12/28/2016

EPA Form 8570-6

2. You are required to comply with the data requirements described in the DCI identified below:

    a. Metolachlor GDCI-108801-1506

    You must comply with all of the data requirements within the established deadlines. If you have questions about the Generic DCI listed above, you may contact the Chemical Review Manager in the Pesticide Reevaluation Division: http://iaspub.epa.gov/apex/pesticides/f?p=chemicalsearch:1

3. The data requirements for storage stability and corrosion characteristics (Guidelines 830.6317 and 830.6320) are not satisfied. A one year study is required to satisfy these data requirements. You have 18 months from the date of registration to provide these data.

4. Make the following label changes before you release the product for shipment:

    - Revise the EPA Registration Number to read, "EPA Reg. No. 74530-74."

5. Submit one copy of the final printed label for the record before you release the product for shipment.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

If you fail to satisfy these data requirements, EPA will consider appropriate regulatory action including, among other things, cancellation under FIFRA section 6(e). Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records. Please also note that the record for this product currently contains the following CSFs:

- Basic CSF dated 02/11/2016

If you have any questions, please contact Karen Samek by phone at (703) 347-8825, or via email at samek.karen@epa.gov.

Enclosure

Master label
Updated 12-20-2016

GROUP 15 HERBICIDE

HELMET

Herbicide for Weed Control in Corn, Cotton, Grain or Forage Sorghum, Peanuts, Pod Crops, Potatoes, Safflower and Soybeans

ACTIVE INGREDIENT: % BY WT.

Metolachlor: 2-chloro-N-(2-ethyl-6-methylphenyl)-N-(2-methoxy-1-methylethyl) acetamide	84.4%
INERT INGREDIENTS:	15.6%
TOTAL:	100.0%

HELMET contains 7.8 lbs. of active ingredient per gallon.

EPA Reg. No. 74530-xx **EPA Est. No. _____**

Net Content:_____

KEEP OUT OF REACH OF CHILDREN

CAUTION

FIRST AID

IF INHALED:
- Move person to fresh air.
- If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably by mouth-to-mouth, if possible.
- Call a poison control center or doctor for treatment advice.

IF ON SKIN OR CLOTHING:
- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment advice.

IF IN EYES:
- Hold eye open and rinse slowly and gently with water for 15-20 minutes.
- Remove contact lenses, if present, after the first 5 minutes; then continue rinsing eye.
- Call a poison control center or doctor for treatment advice.

IF SWALLOWED:
- Call a poison control center or doctor immediately for treatment advice.
- Have affected person sip a glass of water if able to swallow.
- DO NOT induce vomiting unless told by a poison control center or doctor.
- DO NOT give anything by mouth to an unconscious person.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For chemical emergency: Spill, leak, fire, exposure, or accident, call CHEMTREC 1-800-424-9300.

For additional precautionary, handling, and use statements, see inside of this booklet.

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if swallowed, inhaled, or absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Avoid breathing vapor or spray mist. This product may cause skin sensitization reactions in some people. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical resistant to this product are listed below. **Applicators and other handlers must wear:**

- Coveralls over short-sleeved shirt and short pants
- Chemical-resistant gloves such as barrier laminate or Viton ≥14 mils
- Chemical-resistant footwear plus socks
- Chemical-resistant headgear for overhead exposure, and
- Chemical-resistant apron when cleaning equipment, mixing or loading

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

ENGINEERING CONTROLS STATEMENT

Mixers and loaders supporting aerial applications are required to use closed systems. The closed system must be used in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4)]. When using the closed system, the mixers and loaders PPE requirements may be reduced or modified as specified in the WPS.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

DO NOT apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. DO NOT contaminate water when disposing of equipment wash waters or rinsate.

Ground Water Advisory:
This chemical is known to leach through soil into ground water under certain conditions as a result of agricultural use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

Surface Water Advisory:
Metolachlor can contaminate surface water through ground spray drift. Under some conditions, metolachlor may also have a high potential for runoff into surface water - primarily via dissolution in runoff water - for several months post-application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas over-laying extremely shallow ground water, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas over-laying tile drainage systems that drain to surface water.

Mixing/Loading Instructions:
Care must be taken when using this product to prevent back-siphoning into wells, spills, or improper disposal of excess pesticide, spray mixtures, or rinsates. Check valves or anti-siphoning devices must be used on all mixing and/or irrigation equipment.

This product may not be mixed or loaded within 50 ft. of perennial or intermittent streams and rivers, natural or impounded lakes, and reservoirs. This product may not be mixed/loaded or used within 50 ft. of all wells, including abandoned wells, drainage wells, and sink holes. Operations that involve mixing, loading, rinsing, or washing of this product into or from pesticide handling, or application equipment or containers within 50 ft. of any well are prohibited unless conducted on an impervious pad constructed to withstand the weight of the heaviest load that may be positioned on or moved across the pad. Such a pad shall be designed and maintained to contain any product spills or equipment leaks, container or equipment rinse or wash water, and rain water that may fall on the pad. Surface water shall not be allowed to either flow over or from the pad, which means the pad must be self-contained. The pad shall be sloped to facilitate material removal. An unroofed pad shall be of sufficient capacity to contain at a minimum 110% of the capacity of the largest pesticide container or application equipment on the pad. A pad that is covered by a roof of sufficient size to completely exclude precipitation from contact with the pad shall have a minimum containment capacity of 100% of the capacity of the largest pesticide container or application equipment on the pad. Containment capacities as described above shall be maintained at all times. The above-specified minimum containment capacities DO NOT apply to vehicles when delivering pesticide shipments to the mixing/loading site.

DIRECTIONS FOR USE

This product is intended for use in weed control in cotton, peanuts, pod crops, potatoes, safflower, sorghum (grain or forage), soybeans, and tomatoes.

IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABEL.

FOR ALL TANK MIXTURES: It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

DO NOT apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

DO NOT enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 24 hours. Exception: If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- Coveralls
- Chemical-resistant gloves, such as barrier laminate or Viton
- Shoes plus socks

FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN POOR WEED CONTROL, CROP INJURY, OR ILLEGAL RESIDUES.

Note: Not for sale, use, or distribution in Nassau or Suffolk Counties, NY.

To avoid spray drift, DO NOT apply under windy conditions. Avoid spray overlap, as crop injury may result.

PRODUCT INFORMATION

Observe all precautions and limitations on the labels of each product used in tank mixtures. Tank mixtures are permitted only in those states where the tank mix partner is registered. When tank mixtures are recommended, branded products acceptable for tank mixes are listed. Additionally, generic equivalents of these branded products may be used as long as the conditions listed below as well as those on the tank mix partner are followed.

FOR ALL TANK MIXTURES: It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

When an adjuvant is to be used with this product, Helm Agro suggests the use of a Chemical Producers and Distributors Association (CPDA) certified adjuvant.

HELMET is a selective herbicide recommended as a preplant surface-applied, preplant incorporated, or preemergence treatment in water or fluid fertilizer for control of most annual grasses and certain broadleaf weeds in corn - all types, cotton, grain or forage sorghum, peanuts, pod crops, potatoes, safflower and soybeans. HELMET is also recommended as a postemergence treatment in selected crops.

Note: DO NOT use in nurseries, turf, or landscape plantings.

DO NOT apply under conditions which favor runoff or wind erosion of soil containing this product to non-target areas. To prevent off-site movement due to runoff or erosion:

1. Avoid treating powdery dry or light sand soils when conditions are favorable for wind erosion. Under these conditions, the soil surface should first be settled by rainfall or irrigation.
2. DO NOT apply to impervious substrates such as paved or highly compacted surfaces.
3. DO NOT use tail-water from the first flood or furrow irrigation of treated fields to treat non-target crops unless at least 1/2 inch of rainfall has occurred between application and the first irrigation.

Where directions specify a HELMET tank mixture with AAtrex formulations, other brands of atrazine may be used. Follow the rates, recommendations, and limitations on the AAtrex or respective atrazine product label, if other brands of atrazine are used.

Note: Certain states may have established rate limitations for atrazine within specific geographical areas. Consult your state lead pesticide control agency for additional information. It is a violation of this label to deviate from state use regulations.

When HELMET is incorporated, DO NOT exceed the depth of incorporation with supplemental tillage or efficacy will be reduced.

Dry weather following preemergence application of HELMET or a tank mixture may reduce effectiveness. Cultivate if weeds develop.

Where reference is made to weeds partially controlled, partial control can either mean erratic control from poor to good, or consistent control at a level below that generally considered acceptable for commercial weed control.

Precaution: Injury may occur to crops (other than corn) following the use of HELMET under abnormally high soil moisture conditions during early development of the crop.

RESISTANCE MANAGEMENT

HELMET is a Group 15 Herbicide containing the active ingredient metolachlor.

To prevent the risk of weeds developing resistance to HELMET, always apply this product at the labeled rates and in accordance with the use directions. DO NOT use less than labeled rates alone or in tank mixtures. DO NOT use reduced rates of the tank mix partner.

The development of herbicide resistance is well understood, however it is not easily predicted. When herbicides that affect the same biological site of action are used repeatedly over several years to control the same weed species in the same field, naturally-occurring resistant biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that field. Adequate control of these resistant weed biotypes cannot be expected. If weed control is unsatisfactory, it may be necessary to retreat the problem area using a product affecting a different site of action.

Herbicides should be used in conjunction with the resistance management strategies in the area to better manage herbicide resistance through delaying the proliferation and possible dominance of herbicide resistant weed biotypes. It may be necessary to change cultural practices within and between crop seasons such as using a combination of tillage, retreatment, tank-mix partners and/or sequential herbicide applications that have a different site of action. Weed escapes that are allowed to go to seed will promote the spread of resistant biotypes. It is advisable to keep accurate records of pesticides applied to individual fields to help obtain information on the spread and dispersal of resistant biotypes. Consult your agricultural dealer, consultant, applicator, and/or appropriate state agricultural extension service representative for specific alternative cultural practices or herbicide recommendations available in your area.

If herbicide resistance should develop in the area to Group 15 herbicides, this product used alone may not continue to provide sufficient levels of weed control. If the reduced levels of control cannot be attributed to improper application techniques, improper use rates, improper

application timing, unfavorable weather conditions or abnormally high weed pressure, a resistant strain of weeds may have developed. To reduce the potential for weed resistance use this product in a rotation program with other classes of chemistry and modes of action.

For optimum performance, scout fields carefully and begin applications when weeds are smaller rather than larger. If resistance is suspected, contact local or State agricultural advisors.

MIXING INSTRUCTIONS

HELMET Alone:

- Mix HELMET with water or fluid fertilizer and apply as a spray.
- Fill the spray tank 1/2 - 3/4 full with water or fluid fertilizer.
- Add the proper amount of HELMET.
- Add rest of the water or fluid fertilizer.
- Provide sufficient agitation during mixing and application to maintain a uniform emulsion.

Tank Mixtures:

- Fill the spray tank 1/4 full with water.
- Start agitation.
- Add 2,4-D, AAtrex, Banvel, Canopy, Caparol 4L, Command, Cotoran, Eptam, Lorox, Marksman, Princep, Prowl, Pursuit, AAtrex + Princep, Scepter, Sencor, Sonalan or Treflan, and allow it to become dispersed.
- Add HELMET.
- Then add Helmquat 3SL (paraquat), Landmaster BW, or Helosate Plus Advanced (glyphosate) if these products are being used.
- Finally add the rest of the water.
- For all tank mixtures, agitate during mixing and application to maintain a uniform suspension.

For tank mixtures with AAtrex, Banvel, Canopy, Caparol 4L, Command, Cotoran*, Eptam, Lorox, Marksman, Princep, Prowl *, Pursuit, AAtrex + Princep, Scepter, Sencor, Sonalan, or Treflan, fluid fertilizers may replace all or part of the water as carrier, except in the AAtrex postemergence and the Banvel postemergence tank mixes. For tank mixtures with AAtrex, see additional mixing instructions on the AAtrex label. For each mixture, check compatibility with fluid fertilizer, as described below, before mixing in spray tank. For directions on how to conduct a compatibility test, see **Appendix A**.

For all tank mixtures, agitate during mixing and application to maintain a uniform suspension.

*See **Special Mixing Instructions** for tank mixtures with Cotoran, and with AAtrex or Princep + Prowl under the appropriate tank mixture section.

1) SOIL TEXTURES AND HERBICIDE RATES

Where rates are based on coarse-, medium-, or fine-textured soils, it is understood that soil textural classes are generally categorized as follows:

Coarse	Medium	Fine
Sand	Loam	Sandy clay loam
Loamy sand	Silt loam	Sandy clay
Sandy loam	Silt	Silty clay loam
		Silty clay
		Clay loam
		Clay

Within rate ranges in the rate tables and elsewhere on this label, use the lower rate on soils relatively coarse-textured or low in organic matter; use the higher rate on soils relatively fine-textured or high in organic matter.

Note: HELMET may be applied preemergence alone or in tankmixes with partners specified on this label, following preplant incorporated herbicides when used according to their label recommendations, provided that such use is not prohibited on the respective labels.

Thoroughly clean sprayer or other application device before using. Dispose of cleaning solution in a responsible manner. DO NOT use a sprayer or applicator contaminated with any other materials, or crop damage or clogging of the application device may result.

2) APPLICATION PROCEDURES

APPLICATION TIMING

HELMET alone or in some tank mixtures with other labeled herbicides may be applied for weed control in certain crops at various times – preplant, preplant incorporated, preemergence and postemergence. Refer to the given crop section of the label to determine if application timings listed below are recommended.

a) **Preplant Surface-Applied:** For minimum-tillage or no-tillage systems only, HELMET alone and some HELMET tank mixtures may be applied up to 45 days before planting certain crops. For applications made 30 – 45 days before planting, use split applications with 2/3 the labeled broadcast rate for the crop and soil texture applied initially and the remaining 1/3 at planting. For applications made less than 30 days before planting, application may be made either as a split or a single application. Refer to individual crop to determine if early preplant surface application is recommended. When weeds are present at the time of treatment, apply in a tank mixture combination with a contact herbicide such as paraquat or glyphosate. Observe directions for use, precautions, and restrictions on the label of the contact herbicide. To the extent possible, DO NOT move treated soil out of the row or move untreated soil to the surface during planting, or weed control will be diminished.

b) **Preplant Incorporated:** Apply HELMET to soil surface and incorporate into the top 2 inches of soil within 14 days before planting, using a finishing disk, harrow, rolling cultivator, or similar implement capable of providing uniform 2-inch incorporation. When furrow irrigation

will be used or when a period of dry weather is expected after application use a preplant incorporated application. If crop will be planted on beds, apply and incorporate HELMET after bed formation, unless specified otherwise.

c) **Preemergence:** Apply HELMET during planting (behind the planter) or after planting but before weeds or crops emerge.

3) SPECIAL APPLICATION PROCEDURES

a) Preplant Incorporated: CA Only (Safflower, Pod Crops):
Broadcast HELMET to the soil surface and thoroughly incorporate with a disk or similar implement set to till 4-6 inches deep. Till the soil in 2 different directions (cross-till) for more thorough incorporation. Crops may be planted on flat surface or on beds. Caution should be used when forming the beds that only soil from the HELMET treated zone is used - untreated soil should not be brought to soil surface or weed control will be decreased. If the application is made to preformed beds, incorporate HELMET with tillage implement set to till 2-4 inches deep. Care should be taken during tilling to keep the treated/tilled soil on the beds. **Preemergence:** Apply HELMET after planting. Water with sprinkler or flood irrigation within 7-10 days if at least ½ - 1 inch of rainfall does not occur (1/2 inch on course textured soil and 1 inch on fine textured soil).

b) Fall Application (Only in IA, MN, ND, SD, WI, North of Route 20 in the state of NE, and North of Route 136 in the state of IL): Use on medium and fine soils with greater than 2.5% organic matter that will be planted to soybeans the next spring. Ground may be tilled before or after application.

Restrictions:

- DO NOT apply to frozen ground.
- DO NOT exceed a 2- to 3-inch incorporation depth if tilled after treatment.
- If a spring application is made, the total rate of the fall plus spring applications must not exceed the maximum total rate for the specific crop or illegal residues may result.

c) Ground Application: Apply HELMET alone or in tank mixtures by ground equipment in a minimum of 10 gals. of spray mixture per acre unless otherwise specified.

Use sprayers that provide accurate and uniform application. For HELMET tank mixtures with wettable powder or dry flowable formulations, screens and strainers should be no finer than 50-mesh. Rinse sprayer thoroughly with clean water immediately after use.

Calculate the amount of herbicide needed for band treatment by the formula:

$$\frac{\text{Bandwidth in inches}}{\text{Row width in inches}} \times \text{broadcast rate per acre} = \text{amount needed per acre}$$

Note: For information on applying in lower volumes of carrier, see **Low Carrier Application** in Appendix B. For application by air or through center pivot systems, see Appendices C and D. Appendix C includes Aerial Drift Management and Aerial Drift Reduction Advisory sections. For information on impregnating dry fertilizer, see Appendix E.

For information on impregnating dry fertilizer, see **Appendix E**.

HELMET APPLIED ALONE

Weeds Controlled		
Barnyardgrass (watergrass)	foxtail millet	signalgrass (*Brachiaria*)
bristly foxtail	galinsoga	southwestern cupgrass
carpetweed	giant foxtail	tall waterhemp
common waterhemp	goosegrass	wild proso millet*
crabgrass	green foxtail	witchgrass
crowfootgrass	pigweed	woolly cupgrass*
Eastern black nightshade	prairie cupgrass	yellow foxtail
fall panicum	red rice	yellow nutsedge
Florida pusley	robust foxtails (purple, white)	
*For control of these weeds in corn only, refer to the **Corn - Woolly Cupgrass and Wild Proso Millet Control Program** section of this label.		
Weeds Partially Controlled*		
common purslane	sandbur	volunteer sorghum
eclipta	seedling johnsongrass	wild proso millet
Florida beggarweed**	shattercane	woolly cupgrass
hairy nightshade	Texas panicum***	

*See **Product Information** section. Control of these weeds can be erratic due partially to variable weather conditions.

**For partial control of this weed, use a minimum of 2 pts./A and apply preemergence.

***For partial control of this weed, use a minimum of 2 pts./A applied through a center pivot irrigation system.

Control may be improved by following these suggested procedures:

- In corn, use 2 – 2.67 pts./A or the soil surface-applied rates for Helmet alone or in tank mixture, if allowed, when making preplant incorporated or preemergence applications.
- Till moist soil thoroughly to destroy germinating and emerged weeds. If HELMET is to be applied preplant incorporated, this tillage may be used to incorporate HELMET as long as uniform 2-inch incorporation is achieved as outlined under **Application Procedures**.
- Plant crop into moist soil immediately after tillage. If HELMET is to be used preemergence, apply at planting or immediately after planting.

- If possible, sprinkler irrigate within 2 days after application. Apply 1 /2 - 1 inch of water. Use lower water volume (1/2 inch) on coarse-textured soils and higher volume (1 inch) on fine-textured soils. Also, refer to the section on **Center Pivot Irrigation Application** for this method of applying HELMET.
- If irrigation is not possible and rain does not occur within 2 days after planting and application, weed control may be decreased. Under these conditions, a uniform, shallow cultivation (2 inches) is recommended as soon as weeds emerge.

4) Rotational Crops:
HELMET Alone:

- If crop treated with HELMET alone is lost, any labeled crop may be replanted immediately. However, DO NOT make a second broadcast application of HELMET. If original application was banded and the second crop is planted in the untreated row middles, a second banded treatment may be applied over untreated row middles. DO NOT make a second broadcast application over original banded area.
- Alfalfa may be planted 4 months following application.
- Barley, oats, rye, or wheat may be planted 4½ months following treatment.
- Tomatoes may be planted 6 months following application.
- Clover may be seeded 9 months following application.
- Any crop on this label, in addition to root crops, tobacco, barley, buckwheat, milo, oats, rice, rye, wheat, cabbage, or peppers, may be planted in the spring following treatment.
- All other rotational crops may be planted 12 months after a layby application.
- Following a lay-by treatment or multiple treatments applied the previous season, any crop on this label, in addition to tobacco, cabbage, or peppers, may be planted in the spring.
- DO NOT graze or feed forage or fodder from cotton to livestock.

HELMET Tank Mixtures:
It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

For **Rotational Crops** restrictions for HELMET used in tank mixtures, refer to the statements/restrictions above for HELMET and to the respective product labels of any mixing partner(s) for additional statements/restrictions.
Restrictions: To avoid injury to rotational alfalfa or clover:

- DO NOT apply more than 2 lbs. a.i. of metolachlor per acre (2 pts. of HELMET) preemergence (including preplant surface, preplant incorporated, postplant incorporated, etc.).
- DO NOT make lay-by or other postemergent applications of HELMET.
- DO NOT make a second broadcast application of this product.
- DO NOT graze or feed forage or fodder from cotton to livestock.

CROPS

CORN – Limited to Field Corn, Production Seed Corn, Silage Corn, Sweet Corn and Popcorn

HELMET ALONE
Apply Helmet either preplant surface, preplant incorporated, preemergence, or lay-by, using the appropriate rate specified below.

PREPLANT SURFACE-APPLIED:
Refer to instructions for use of HELMET alone under APPLICATION PROCEDURES.

1) **Fall Application – Apply based on the following dates for different geographic areas**
MN, ND, SD, WI and North of Route 30 in IA - after September 30
NE - North of Route 91 and South of Route 30 in IA - after October 15
IL - North of Route 136 - after October 31
In all areas, apply to crop stubble after harvest when the sustained soil temperature at a 4-inch depth is below 55°F and falling.

In minimum-tillage or no-tillage systems - Soils >2.5% organic matter:
Medium Texture - 1.67-2.0 pts./A
Fine Texture – 2.0 pts./A

DO NOT apply to frozen ground. A tillage operation may be made before the application. Application may be followed by a fall and/or a spring tillage. However, DO NOT exceed an incorporation depth greater than 2-3 inches. Minimize furrow and ridge formation in the tillage operations.
Restrictions:
- DO NOT apply to frozen ground.
- If a spring application is made, the total rate of the fall plus spring applications must not exceed the maximum total rate for corn or illegal residues may result.

2) **Early Preplant applications in CO, IA, IL, IN, KS, KY, MN, MO, MT, ND, NE, SD, TN, WI and WY**
In minimum-tillage or no-tillage systems:
Medium and Fine Textured Soils - Apply 2/3 of the labeled rate of HELMET (1.67 pts./A on medium soils and 2.0 pts./A on fine soils) as a split treatment 30-45 days prior to planting. The remainder should be applied at planting. If application is to be made less than 30 days before planting it may be applied either a split or single treatment.
Coarse Textured Soils - Apply 1.33 pts./A not more than 2 weeks prior to planting.

3) **Preplant surface applications may be applied following the directions for use above on medium- and fine-textured soils with minimum-tillage or no-tillage systems in CT, DE, MA, MD, ME, MI, NH, NY, OH, PA, RI, VA, VT and WV.**
If the amount of rainfall results in unsatisfactory length of weed control following the earlier treatment, a postemergence application of an appropriately labeled broadleaf and/or grass weed herbicide may be used, i.e., AAtrex, Accent, Banvel, Basagran, Beacon, Bicep, bromoxynil (Brominal or Buctril), Exceed or 2,4-D. If the postemergence treatment includes the herbicide used preplant surface-applied, DO NOT exceed the total labeled rate for corn on a given soil texture. Observe all directions for use, precautions, and limitations on the label of the postemergent herbicide.

HELMET Preplant Incorporated or Preemergence in Corn:
Follow instructions for use of HELMET alone under Application Procedures.

Coarse soils
- < 3% OM - 1.0-1.33 pts./A
- > 3% OM - 1.33 pts./A

Medium soils
- 1.33-1.67 pt./A

Fine soils
- < 3% OM - 1.33-1.67 pts./A
- > 3% OM - 1.67-2.0 pts./A

HELMET POSTEMERENCE or LAY-BY in Corn:
For extended residual weed control in corn, a maximum rate of 2.0 pts./A of HELMET may be applied after corn emergence until the corn plants reach 40 inches in height, following any preplant surface-applied, preplant incorporated, or preemergence herbicide application, including HELMET. Applications to soil free of emerged weeds and directed towards the base of corn plants in excess of 5 inches tall. The total HELMET rate applied on corn during any one year must not exceed 4 pts./A, depending on soil texture.
Restriction - All applications to corn: To avoid possible illegal residues, DO NOT graze or feed forage from treated areas for 30 days following application.

PROBLEM WEED CONTROL DIRECTIONS:
Wild Proso Millet and Woolly Cupgrass Control Program:
For control of these species, use the following 3-step program:
1) Apply HELMET early preplant, preplant incorporated, or preemergence at 1.67 pts./A on medium soils and 2.0 pts./A on fine-textured soils, up to the maximum label rate. Lightly incorporate with a rotary hoe if rainfall does not occur within 5-7 days;
2) Follow first application with a postemergence tank mix of Beacon at 0.38 oz./A plus 1 qt. of crop oil concentrate plus 1 gal./A of 28% nitrogen, or the equivalent amount of ammonium sulfate, when grasses are 2-3 inches tall and the corn is at least 4 inches tall; and

3) Cultivate 14-21 days after the postemergence application.

Eclipta, Shattercane, Wild Proso Millet and Woolly Cupgrass – Partial Control:

For more consistent partial control of eclipta, shattercane, wild proso millet or woolly cupgrass, apply 2.0 - 2.5 pts./A as a single application or apply 1.0 - 1.33 pts./A of HELMET preplant incorporated, followed by 1.0 - 1.33 pts./A of HELMET preemergence. DO NOT apply more than a total of 2.55 pts./A. Make the preemergence application during or after planting, but before weeds and corn emerge. Apply the 1.33 pts./A rate of HELMET when a heavy infestation of eclipta, shattercane, wild proso millet or woolly cupgrass is expected. Follow with a shallow cultivation if needed to control any late emerging weeds.

Notes:

- In corn, HELMET may be used up to 2.75 pts./A as either a preplant surface, preplant incorporated, or preemergence treatment on soils having an organic matter content between 6% and 20% or up to 2.0 pts./A on any soil for extended residual control and where severe stands of problem weeds are expected.
- If annual weeds escape following a preplant surface, preplant incorporated, or preemergence treatment of HELMET, follow with a postemergence application of an appropriately labeled broadleaf and/or grass weed herbicide, i.e., AAtrex, Beacon, Bicep, Exceed, Accent, Banvel, Basagran, Brominal, Buctril, or 2,4-D. If the postemergence treatment includes the herbicide used in the earlier treatment, i.e., AAtrex, DO NOT exceed the total labeled rate for corn on a given soil texture.
- Brominal or Buctril may be applied postemergence alone or in tank mix combination with AAtrex. DO NOT exceed 1.2 lbs. a.i./A of AAtrex in tank mix combination with Brominal or Buctril postemergence. Refer to the AAtrex, Brominal, and Buctril labels for specific rates and precautions.

Restrictions:

- DO NOT apply more than the labeled application rate for a given soil texture per year, either as a single or split treatment, or illegal residues may result.
- DO NOT use HELMET on peat or muck soils.

HELMET COMBINATIONS FOR CORN

It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

HELMET in any tank-mixture for Field corn, Popcorn and Sweet corn (except HELMET + Atrazine post-emergence and HELMET + Banvel post-emergence) may be applied in water or fluid fertilizer. Use only water in HELMET + Atrazine or HELMET + Banvel post-emergence tank-mixes.

Chart 1: HELMET Tank Mixtures for Corn - Additional Weeds Controlled and Special Instructions								
	HELMET + AAtrex and/or Princep (Preplant Surface, PPI, PRE)	HELMET + AAtrex (Post)	HELMET + Banvel (Field Corn)	HELMET + AAtrex + Lorox	HELMET + AAtrex or Princep + Prowl	HELMET + Marksman	HELMET + Broadstrike + HELMET SPC	HELMET + Balance Pro
Special Mixing Instructions					1			
Comments	2, 3, 4, 5, 7, 8	2, 3, 4, 5		2, 3, 4, 5, 6	2, 3, 4, 5	7	7	2, 3, 7
Browntop panicum	C			C	C			C
Cocklebur	C	PC	PC	C	C	C	PC - C	PC - C
Common purslane	C			C	C	C	C	C
Hairy nightshade	C			C	C	C	C	C
Jimsonweed		PC	PC			C	PC - C	C
Kochia		C				C	C	C
Lambsquarters	C	C	C	C	C	C	C	C
Morningglory	C	PC	PC	C	C	C	PC - C	C
Mustard		C				C	C	C
Pigweed				C	C	C	C	C
Prickly sida		C				C	C	
Ragweed	C	C	C	C	C	PC - C	PC - C	C
Smartweed	C	C	C	C	C	C	C	C
Velvetleaf	C	C	PC	C	C	PC - C	C	PC - X
C = Control; PC = Partial Control; PC - C = Partial to Full control depending on: 1) ratio of products used, or 2) weed population								

Comments/Instructions:

1. Special Mixing Instructions for HELMET + AAtrex or Princep and Prowl:
   a) Fill the spray tank 1/4 full with water or fluid fertilizer and start agitation.
   b) To aid compatibility, add a compatibility agent, such as Unite or X-77 at 4 pts./100 gals. of spray mixture.
   c) Then add the AAtrex or Princep and allow it to become dispersed.
   d) Then add HELMET and Prowl 4E.
   e) Add the rest of the water.
2. Although a single formulation for AAtrex or Princep is listed in the rate tables, other formulations may be substituted, using the following formula: 1 lb. of AAtrex Nine-O or Princep Caliber 90 = 1.8 pts. of AAtrex 4L or Princep 4L.
3. Although directions specify AAtrex formulations in tank mixture with HELMET, other brands of atrazine may be used. Follow the rates, recommendations, and limitations on the atrazine label.
4. See additional mixing instructions on the AAtrex label.
5. Restriction: DO NOT exceed a total of 2.5 lbs. a.i. of atrazine per acre per year. However, certain states may have established rate limitations for atrazine within specific geographical

areas. Consult your state lead pesticide control agency for additional information. It is a violation of this label to deviate from state use regulations.
6. Other formulations of Lorox can be used: 1 lb. of Lorox DF = 1 pt. of Lorox L.
7. In minimum-tillage and no-tillage systems, mix with Paraquat dichloride for control of most emerged annual weeds and suppression of perennial weeds; or with glyphosate + 2,4-D (Landmaster) for suppression of emerged field bindweed and control or suppression of annual weeds; or with Helosate Plus Advanced (glyphosate) for control of most emerged annual and perennial weeds.
8. Refer to HELMET Combinations for Corn - Tank Mixture with AAtrex; or AAtrex + 2,4-D; or AAtrex + 2,4-D + Banvel for Minimum-Tillage or No-Tillage Systems sections for specific directions for 2,4-D or Banvel burndown combinations in minimum-tillage and no-tillage systems.

HELMET in any tankmix for corn may be applied in water or fluid fertilizer, except as noted.

Notes:

1) Refer to the section entitled Corn (All Types) - HELMET Alone, Problem Weed Control Directions, Note (3) for sequential postemergence treatments if escape weeds develop.
2) In corn, HELMET may be used up to 2.0 pts./A in combinations on any soil for extended residual control and where severe stands of problem weeds are expected.
3) This Product may be tank-mixed with the herbicides listed on this label provided the specific product(s) tank-mixed is registered for use on Field corn, Popcorn and Sweet corn.

Restrictions:

1) For all applications to corn, DO NOT graze or feed forage from treated areas for 30 days following application, or possible illegal residues may result.
2) FOR TANK-MIXTURES WITH ATRAZINE — If applying HELMET in tank-mixture with Atrazine, all restrictions and rate limitations on the Atrazine label must be followed, if more restrictive/protective than what is on this label.
3) DO NOT exceed a total of 2.5 pounds of Atrazine per acre per year when applying HELMET in tank-mixture with Atrazine.

Tank Mixture with AAtrex or Princep, or AAtrex + Princep – Preplant Surface, Preplant Incorporated, or Preemergence

In addition to the weeds controlled by HELMET alone, tank mixtures of HELMET + AAtrex or Princep, or HELMET + AAtrex + Princep, applied preplant surface, preplant incorporated, or preemergence, will control the following weeds: browntop panicum, cocklebur, common purslane, hairy nightshade, lambsquarters, morningglory, ragweed, smartweed, and velvetleaf.

Apply HELMET + AAtrex or Princep, or HELMET + AAtrex + Princep either preplant surface, preplant incorporated, or preemergence.

Preplant Surface-Applied:

Follow instructions for use of HELMET alone under Application Procedures and under application instructions for HELMET alone on corn.

Medium Soils:
Apply HELMET + AAtrex or Princep, or HELMET + AAtrex + Princep on medium soils (1.67 pts./A of HELMET + 3.2 - 4 pts./A of AAtrex 4L or Princep 4L, or AAtrex 4L + Princep 4L combined)
Fine Soils:
Apply HELMET + AAtrex or Princep, or HELMET + AAtrex + on fine soils (1.67 - 2.0 pts./A of HELMET + 4 - 5 pts./A of AAtrex 4L or Princep 4L, or AAtrex 4L + Princep 4L combined)

Apply above tank mixtures in minimum-tillage and no-tillage systems in CO, IA, IL, IN, KS, KY, MN, MO, MT, ND, NE, SD, TN, WI, and WY. Apply these tank mixtures as a split or single treatment in those states and as indicated in the HELMET Alone – Preplant Surface-Applied section of the label for corn.

Coarse soils:
Apply 1.33 pts./A of HELMET and 3.2 pts./A of AAtrex 4L or Princep 4L, or AAtrex 4L + Princep 4L combined.

Preplant Incorporated or Preemergence:
Follow instructions for use of HELMET alone under Application Procedures. Apply HELMET + AAtrex or Princep, or HELMET + AAtrex + Princep, using the appropriate rates from Table 1.
Restriction: DO NOT apply more than the labeled rate for a given soil texture per year, either as a split or single treatment, or illegal residues may result.

Eclipta, Shattercane, Wild Proso Millet and Woolly Cupgrass – Partial Control
For more consistent partial control of eclipta, shattercane, wild proso millet or woolly cupgrass where HELMET is applied in tank mixture or sequentially with other registered corn herbicides, apply 2.0 - 2.33 pts./A as a single application, or the following applications may be made:
1. Apply 1.0 - 1.33 pts./A of HELMET + 2 lbs. a.i./A of AAtrex or Princep preplant incorporated, followed by 1.0 - 1.33 pts./A of HELMET preemergence. Make the preemergence application during or after planting, but before emergence of weeds and corn.
2. Apply HELMET at 1.33 pts./A alone or in tank mix combination with up to 2 lbs. a.i./A of AAtrex or Princep, preplant incorporated. DO NOT exceed the total rate of triazine herbicide listed for corn grown on a given soil texture. Follow with a post-directed application of Evik 80W at 2.5 lbs./A. Refer to the Evik 80W label for specific directions for the post-directed application.
3. Apply Eradicane or Sutan (or equivalent EPTC or butylate formulations) at labeled rates preplant incorporated, followed by a preemergence application of HELMET at 1.0 - 1.33 pts./A. DO NOT use Eradicane or Sutan on soils where rapid degradation has been shown to occur. Make the preemergence application during or after planting, but before weeds and corn emerge.

Precaution: When following the application regimens in numbers 1 to 3 above, a shallow cultivation may be needed after the preemergence or postemergence application to help control any late emerging shattercane or wild proso millet plants.

Table 1: HELMET + AAtrex or Princep, or HELMET + AAtrex + Princep - Preplant, Preplant Incorporated or Preemergence – Corn (All Types)

Soil Texture	BROADCAST RATES PER ACRE					
	LESS THAN 3% ORGANIC MATTER			3% ORGANIC MATTER OR GREATER		
	HELMET + AAtrex Nine-O* or Princep Caliber 90*		HELMET + AAtrex Nine-O** or Princep Caliber 90**	HELMET + AAtrex Nine-O* or Princep Caliber 90*		HELMET + AAtrex Nine-O** or Princep Caliber 90**
Coarse	0.85 - 1.0 pt. + 1.1 - 2.2 lbs.	OR	0.85 - 1.0 pt. + 0.6 - 1.1 lbs. + 0.6 - 1.1 lbs.	1.0 pt. + 1.3 - 2.2 lbs.	OR	1.0 pt. + 0.7 - 1.1 lbs. + 0.7 - 1.1 lbs.
Medium	1.0 - 1.33 pts. + 1.3 - 2.2 lbs.		1.0 - 1.33 pts. + 0.7 - 1.1 lbs. + 0.67- 1.1 lbs.	1.33 pts. + 1.8 - 2.2 lbs.		1.33 pts. + 0.9 - 1.1 lbs. + 0.9 - 1.1 lbs.
Fine	1.33 pts. + 1.8 - 2.2 lbs.		1.33 pts. + 0.9 - 1.1 lbs. + 0.9 - 1.1 lbs.	1.33 - 1.67 pts. + 1.8 - 2.2 lbs.***		1.33 - 1.67 pts. + 0.9 - 1.1 lbs.*** + 0.9 - 1.1 lbs.
Muck or Peat (soils with more than 20% organic matter)	DO NOT USE					

* Use Princep in preference to AAtrex when expecting heavy infestations of crabgrass or fall panicum. On soils having between 6% and 20% organic matter, HELMET may be used up to 2.33 pts./A in tank mix combination with 2.2 lbs./A of AAtrex Nine-O, or equivalent rates of AAtrex 4L. Refer to the AAtrex label for weeds controlled at this reduced rate.

** When using the tank mixture of HELMET + AAtrex Nine-O + Princep Caliber 90, use equal rates of each as shown when expecting heavy broadleaf weed infestations. When heavy infestations of crabgrass or fall panicum are expected, use a 1:2 ratio of AAtrex + Princep instead of the 1:1 ratio given in Table 1. (Example: Total AAtrex Nine-O + Princep Caliber 90 = 1.2 lbs./A, use 0.4 lb. of AAtrex + 0.8 lb. of Princep, respectively.) Refer to Comment No. 2 following Chart 1 for AAtrex 4L and Princep 4L conversions.

*** For cocklebur, velvetleaf and yellow nutsedge control on fine-textured soils above 3% organic matter, apply 2.25 lbs./A of AAtrex Nine-O, or equivalent rates of AAtrex 4L, or the same total amount of AAtrex + Princep with 1.33 - 1.67 pts./A of HELMET.

Tank Mixture with AAtrex – Postemergence

Weeds Controlled		
barnyardgrass (watergrass)	jimsonweed	purslane
crabgrass	kochia	ragweed
crowfootgrass	lambsquarters	smartweed

fall panicum	mustard	velvetleaf
giant foxtail	pigweed	yellow foxtail
green foxtail	prickly sida	
Weeds Partially Controlled		
cocklebur	morningglory	yellow nutsedge

Apply:

- 1.0 pt./A of HELMET + 1.3 lbs./A of AAtrex Nine-O* on coarse soils
- 1.33 pts./A of HELMET + 1.8 lbs./A of AAtrex Nine-O on medium soils
- 1.33 - 1.67 pts./A of HELMET + 1.8 - 2.2 lbs./A** of AAtrex Nine-O on fine soils

Apply this tank mixture before grass and broadleaf weeds pass the 2-leaf stage and before corn exceeds 5 inches in height. Application to weeds larger than the 2-leaf stage will generally result in unsatisfactory control.

Lay-by:

Apply to corn plants not more than 12 inches tall. Direct applications to the base of corn plants in excess of 5 inches. Applications to corn plants less than 5 inches tall may be made over the top. Occasionally, some corn leaf burn may result, but this should not affect later growth or yield. DO NOT apply this postemergence tank mixture in fluid fertilizer, or severe crop injury may occur.
* When using AAtrex 4L, use equivalent rates. One lb. of AAtrex Nine-O equals 1.8 pts. of AAtrex 4L.
** For improved control of cocklebur, morningglory, velvetleaf, and yellow nutsedge on fine-textured soils above 3% organic matter, apply 2.2 lbs./A of AAtrex Nine-O, or equivalent rate of AAtrex 4L, with 1.33 - 1.67 pts./A of HELMET. Tank mixtures of HELMET + AAtrex may be applied following use of any registered preplant surface-applied, preplant incorporated, or preemergence corn herbicide, including HELMET + AAtrex.
Restriction: The total HELMET rate must not exceed 4 pts. or more than 2.5 lbs. a.i./A of AAtrex during any one-crop year, or illegal residues may result. Refer to the AAtrex label for geographic, soil-texture, and rotational restrictions.

Tank Mixture with Banvel

Preemergence:

Use this tank mixture only on field corn which is flat-planted (no furrows) in CO, IA, IL, IN, KS, MN, NE, OH, SD, and WI. In addition to the weeds controlled by HELMET alone, HELMET + Banvel, applied preemergence also controls or partially controls cocklebur*, jimsonweed*, lambsquarters, morningglory*, ragweed, smartweed and velvetleaf*.
*Partially controlled.

Apply HELMET + Banvel preemergence. Broadcast 1 pt./A of Banvel with 1.33 pts./A of HELMET on medium soils, or with 1.33 - 1.67 pts./A of HELMET on fine soils. Apply this tank mixture to the soil surface at planting or after planting, but before corn emerges. Plant corn at least 1.5 inches deep and apply behind planting equipment, avoiding incorporation by the planter wheel or other seed-covering device.

Restrictions: (1) DO NOT apply on coarse soils or on soils with less than 2.5% organic matter. (2) DO NOT incorporate before corn emergence. (3) If it is necessary to rotary hoe to break the soil crust, DO NOT disturb the soil more than 1/2 inch deep. (4) DO NOT apply with aircraft.
Precautions: (1) Avoid drift to sensitive non-target plants, such as soybeans, during application, or injury may occur.
Postemergence for Control of Pigweed (Mid-Atlantic states, including DE, MD, PA, VA, and WV): Apply 1.0 - 1.5 pts. of HELMET + 0.5 - 1 pt./A of Banvel by ground equipment when pigweed plants are less than 3 inches tall but before field corn exceeds 5 inches in height in a minimum of 20 gals. of spray per acre. Use the lower rate on coarse-textured and low organic matter soils. Use the higher rate on fine-textured and high organic matter soils. Banvel SGF and Clarity may be used at equivalent lbs. of active ingredient per acre.
Precaution: Avoid drift to sensitive non-target plants, such as soybeans, during application, or injury may occur.
Restriction: DO NOT apply with aircraft.

Tank Mixture with AAtrex and Lorox for Control of Lambsquarters and Pigweed
For prolonged control of lambsquarters and pigweed in DE, MD, NJ, NY, PA, VA, and WV, HELMET may be applied preemergence in tank mix combination with AAtrex + Lorox. Apply HELMET and AAtrex according to the rates in Table 1 and Lorox according to the following rates.

SOIL TEXTURE	BROADCAST RATE PER ACRE
Sandy Loam (1 - 3% organic matter)	0.67 lb. Lorox
Sandy Loam (3 - 6% organic matter)	1.0 lb. Lorox
Medium- and fine-textured soils (1-6% organic matter)	1.0 lb. Lorox

Observe all directions for use, precautions, and limitations on the HELMET, AAtrex, and Lorox labels when applying these products in tank mix combinations.

Tank Mixture with AAtrex or Princep + Prowl for Prolonged Control of Lambsquarters and Pigweed in Field Corn Only (Northeast U.S., including IN, KY and MI and States East of These)
To prolonged control of lambsquarters and pigweed, in addition to broadening the spectrum of annual broadleaf and grass weeds control, tank mix and apply HELMET with AAtrex* or Princep + Prowl 4E after planting but before corn or weeds emerge. Refer to Table 1 of this label for rates of HELMET, AAtrex, or Princep to be applied. Apply Prowl 4E according to the following rates in Table 2.

Restriction: DO NOT apply HELMET in tank mix combination with AAtrex 80W + Prowl, as this combination is not compatible. Other AAtrex formulations may be used.

Mixing Instructions: See Comment No. 1 following Chart 1.

Table 2: Prowl 4E – Broadcast Rates Per Acre

SOIL TEXTURE	PERCENT ORGANIC MATTER IN SOIL		
	LESS THAN 1.5%	1.5 - 3%	Over 3%
Coarse	1.5 - 2.0 pts.	2.0 pts.	3.0 pts.
Medium	2.0 pts.	3.0 pts.	3.0 pts.
Fine	2.0 pts.	3.0 pts.	3.0 pts.

Apply by ground equipment in a minimum of 10 gals. of water or 20 gals. of liquid fertilizer. Apply by air in a minimum of 5 gals. of water.

Observe all directions for use, precautions, and limitations on the respective product labels when applying these products in tank mix combination. Refer to the Prowl 4E label for replanting instructions in the event of crop loss.

Tank Mixture with AAtrex, or Princep, AAtrex + Princep, with Helmquat 3SL (paraquat), Landmaster BW, or Helosate Plus Advanced (glyphosate) for Minimum-Tillage or No-Tillage Systems

In minimum-tillage or no-tillage systems where corn is planted directly into a cover crop, stale seedbed, established sod, or previous crop residues, the contact herbicides Helmquat 3SL (paraquat), Landmaster BW, or Helosate Plus Advanced (glyphosate) may be added to a tank mix of HELMET + AAtrex or Princep, or HELMET + AAtrex + Princep. See Comment No. 7 following Chart 1. The HELMET + AAtrex or
Princep, or HELMET + AAtrex + Princep portion of the tank mixture provides preemergence control of the weeds listed on this label in the tank mixture section for HELMET + AAtrex or Princep, or HELMET + AAtrex + Princep – Preplant Surface, Preplant Incorporated, or Preemergence.

See Comment No. 1 following Chart 1 for special mixing instructions.

Application:
Apply before, during, or after planting, but before the corn emerges, at the rates specified below. Add Helmquat 3SL (paraquat), Landmaster BW, or Helosate Plus Advanced (glyphosate) at the following broadcast rates:

Helmquat 3SL (paraquat): Apply as directed on the product label. This treatment will not control weeds taller than 6 inches.
Restriction: DO NOT apply combinations containing Helmquat 3SL (paraquat) in suspension-type liquid fertilizers, because the activity of paraquat will be reduced.

Landmaster BW:
27 - 54 oz./A depending on weed species and size. See the Landmaster BW label for weeds controlled, recommended rates for specific weeds, and other information concerning use.

Helosate Plus Advanced (glyphosate):
See the Helosate Plus Advanced (glyphosate) label for weeds controlled, labeled rates, and other use directions.

Apply in 20 - 60 gals. of water or fluid fertilizer per acre with ground equipment.

On coarse soils, apply 1.0 pt./A of HELMET with 1.3 lbs. of AAtrex Nine-O* or Princep Caliber 90*, or with 0.7 lb. of AAtrex Nine O** + 0.7 lb. of Princep Caliber 90**. On medium soils, apply 1.33 pts./A of HELMET with 1.8 lbs. of AAtrex Nine-O or Princep Caliber 90, or with 0.9 lb. of AAtrex Nine-O + 0.9 lb. of Princep Caliber 90. On fine soils***, apply 1.33 - 1.67 pts./A of HELMET with 1.8 - 2.2 lbs. of AAtrex Nine-O or Princep Caliber 90, or with 0.9 - 1.1 lbs. of AAtrex Nine-O + 0.9 - 1.1 lbs. of Princep Caliber 90.

* Use Princep in preference to AAtrex when heavy infestations of crabgrass or fall panicum are expected.
** When using the tank mixture of HELMET + AAtrex Nine-O + Princep Caliber 90, use equal rates of AAtrex and Princep as shown when heavy broadleaf weed infestations are expected. When heavy infestations of crabgrass or fall panicum are expected, use a 1:2 ratio of AAtrex + Princep instead of the 1:1 ratio given. (Example: Total AAtrex Nine-O + Princep Caliber 90 = 1.8 lbs./A, use 0.6 lb. of AAtrex + 1.2 lbs. of Princep, respectively.) Refer to Comment No. 2 following Chart 1 for AAtrex 4L and Princep 4L conversions.
*** For cocklebur, yellow nutsedge, and velvetleaf control on fine-textured soils above 3% organic matter, apply 2.25 lbs./A of AAtrex Nine-O, or equivalent rate of AAtrex 4L, or the same total amount of AAtrex + Princep, with 1.33 - 1.67 pts./A of HELMET.

Tank Mixture with AAtrex; or AAtrex + 2,4-D; or AAtrex + 2,4-D + Banvel for Minimum-Tillage or No-Tillage Systems
In minimum-tillage or no-tillage systems where corn is planted directly into a cover crop, stale seedbed, established sod, or previous crop residues, HELMET applied in combination with AAtrex will kill most emerged small annual weeds. Apply HELMET + AAtrex before, during, or after planting, but before corn emerges, according to the rates in Table 1.

Where heavy crop residues exist, add 0.8 - 1.6 pts./A of an appropriately labeled 3.8 lbs. a.i./gal. 2,4-D amine (such as Weedar 64, Weedar 64A or DMA-4 Herbicide) to the spray tank last and apply in a minimum of 25 gals. of carrier per acre.

As carriers, nitrogen solutions and complete liquid fertilizers applied before corn emergence enhance burndown of existing weeds, and therefore, are recommended instead of water. Add X-77 surfactant at 1.0 - 2.0 qts./100 gals. of diluted spray, or another appropriate surfactant at its recommended rate, or add crop oil concentrate plus 28% liquid nitrogen (or equivalent).
Apply before weeds exceed 3 inches in height. If alfalfa is present, add Banvel to the spray mixture at 0.33 - 0.5 pt./A and apply before alfalfa exceeds 6 inches in height.

For fields with existing sod grasses (e.g., bromegrass, orchardgrass, rye, or timothy), when existing weeds exceed 3 inches in height or when very dry conditions exist, add Helmquat 3SL (paraquat) at the rate of 2.5 pts./A in place of or in addition to 2,4-D, as indicated above.
Restriction: DO NOT apply Helmquat 3SL (paraquat) in suspension-type liquid fertilizer.
Observe all directions for use, precautions, and limitations on the respective product labels when applying these products in tank mix combination.

Tank Mixture with Marksman in Conservation Tillage - Field and Silage Corn
In conservation tillage systems where corn is planted directly into a cover crop or previous crop residue, HELMET + Marksman will kill most emerged small annual weeds. Apply HELMET + Marksman before, during, or after planting, but before corn emergence on medium and fine soils with greater than 2.5% organic matter. For fields with existing vegetation exceeding 3 inches in height or when very dry conditions exist, add Helmquat 3SL (paraquat) at its standard rate. HELMET + Marksman may be applied postemergence to corn less than 3 inches tall and before weedy grasses exceed the 2-leaf stage. As carriers, nitrogen solutions and complete liquid fertilizers applied before corn emergence enhance burndown of existing weeds. DO NOT apply Helmquat 3SL (paraquat) in suspension-type liquid fertilizer or use on emerged corn.

Refer to the Marksman label and follow all directions, limitations, precautions, and information regarding application and use in corn.

Tank Mixture with Broadstrike + HELMET PCS
For preplant surface, preplant incorporated, or preemergence application where severe grass populations are expected on medium- or fine-textured soils with relatively high organic matter content, Broadstrike + HELMET PCS may be spiked with HELMET for optimum performance. Refer to the Broadstrike + HELMET PCS label for its use rate and the amount of metolachlor active ingredient it contains. HELMET may be added up to, but not to exceed, the maximum alone HELMET label rate for the soil classification. Refer to the respective labels and follow all directions, limitations, and restrictions for each product.

TANK-MIXTURE WITH BALANCE PRO — FIELD CORN ONLY
HELMET and Balance PRO have a complementary response and weed control profile which allows various tank-mix rate combinations to be considered. The addition of Balance PRO will improve the control of certain problem weeds including Texas panicum, Woolly cupgrass and Wild proso millet. HELMET improves both the duration and spectrum of annual grass and small-seeded broadleaf weed control, in particular Foxtails (Yellow foxtail), Witchgrass and Yellow nutsedge.

To reduce the risk of an adverse crop response, the Balance PRO label does not allow applications to Coarse-textured soils with less than 1.5% organic matter and warns about applications to all soils with less than 1.5% organic matter or with pH greater than 7.5, as well as applications made to areas in fields with clay knolls, eroded hillsides and exposed subsoil. HELMET has no adverse crop response warnings or use restrictions.

Listed below are compensating rate options for combinations of HELMET and Balance PRO, e.g., higher rates of HELMET are combined with lower rates of Balance PRO and vice versa. Select a rate option for HELMET plus Balance PRO by weighing the intensity of problem weed pressure (population presence and density) and your acceptance for risk of an adverse crop response. For example, where Texas panicum, Woolly cupgrass or Wild proso millet is a primary target weed, use a tank-mix combination with a higher Balance PRO rate for the given soil type.

Where your acceptance of an adverse crop response risk is low and/or a more general weed spectrum is targeted (especially Witchgrass, Yellow foxtail or Yellow nutsedge), use a tank-mix combination with a higher rate of HELMET for the given soil type.

Where a target weed is listed as controlled on both product labels, a tank-mix combination option including intermediate rates of both products may be used. Where a target weed is listed as controlled on only one product label, DO NOT apply a rate of that product below what is specified for that weed on the individual product label or unacceptable control may result. Follow all other directions for use, rate limitations, precautions, and restrictions on the label of HELMET and Balance PRO.

Coarse-textured soils: Where 1.5 or 1.88 fl. oz./A of Balance PRO is used, 1.0 -1.33 pts./A of HELMET may be applied. DO NOT use Balance PRO on coarse-textured soils with less than 1.5% organic matter.
Medium-textured soils: Where 1.5 fl. oz./A of Balance PRO is used, rates as low as 1.33 pts./A of HELMET may be applied. Where 1.88 or 2.25 fl. oz./A of Balance PRO is used, rates as low as 1.0 pt./A of HELMET may be applied. HELMET can be used in combinations with Balance PRO at rates up to 1.67 pts/A on medium-textured soils
Fine-textured soils: Where 1.5 fl. oz./A of Balance PRO is used, rates as low as 1.33 pts/A of HELMET may be applied if the soil organic matter is less than 3%. If the soil organic matter is 3% or greater, 1.67 pts/A of HELMET should be applied. Where 1.88 or 2.25 fl. oz./A of Balance PRO is used, rates as low as 1.33 pts/A of HELMET may be applied. Where 3.0 fl. oz./A or more of Balance PRO is used, rates as low as 1.0 pt./A of HELMET may be applied. HELMET can be used in combinations with Balance PRO at rates up to 2.0 pts./A on Fine-textured soils if the organic matter is 3% or greater

TANK-MIXTURES FOR POST-EMERGENCE SALVAGE WEED CONTROL IN FIELD CORN ONLY
For post-emergence control of weeds in specific types of field corn, the combinations listed below may be used. Full season weed control from early pre-plant, pre-plant incorporated or pre-emergence treatments can lead to maximum yield potential under competition-free conditions. However, if control of emerged weeds is needed, a post-emergence program listed below can be applied to provide residual control for the remainder of the season.
Restrictions:

1) Follow all label directions, instructions, precautions, and limitations for each product used.
2) DO NOT use fluid fertilizer with these mixtures or corn injury may occur.

3) For each tank-mixture with HELMET, apply only to the specific field corn type specified on the tank-mix product label.
4) In-row weed control may be reduced because of lack of coverage when applied to corn over 4 inches tall.

TANK-MIXTURE WITH LIBERTY HERBICIDE OR IGNITE® 280 SL
Post-emergence use in LibertyLink® Corn or Corn Warranted by Bayer CropScience as being tolerant to Glufosinate (e.g., Liberty Herbicide or Ignite ® 280 SL)

These tank-mixtures can be applied post-emergence to weeds and corn from seed designated as LibertyLink or corn warranted by Bayer CropScience as being tolerant to Glufosinate (e.g., Liberty Herbicide or Ignite 280 SL). Liberty Herbicide provides post-emergence control of a broad spectrum of grass and Broadleaf weeds and HELMET provides residual control of Grasses and certain Broadleaf weeds listed in the section **HELMET Alone.** Refer to **HELMET Preplant Incorporated or Preemergence in Corn** under the **CORN HELMET ALONE** section above. Use the minimum rate per soil texture and organic matter classification for season-long residual control from this tank-mix combination with Liberty Herbicide or Ignite 280 SL. Refer to the Liberty Herbicide or Ignite 280 SL label for the post-emergence application rates according to weed species and their maximum height at the time of post-emergence application. Where multiple weed species are present, use the highest specified rate to control the species and growth stages present.

Follow all applicable use directions, limitations, precautions and information regarding application to corn on HELMET and Liberty Herbicide or Ignite 280 SL labels. Where difficult species and/or severe weed populations are expected, use the maximum rate where rate ranges are listed.

TANK-MIXTURE WITH GLYPHOSATE
For Post-emergence Application to Glyphosate-Tolerant Corn (Roundup Ready® or Agrisure®GT)
The tank-mixture of HELMET + Glyphosate can be applied post-emergence to weeds and to corn designated as Glyphosate-tolerant. Application may be applied post-emergence to Glyphosate-tolerant corn from emergence until corn reaches 30 inches tall or the V8 stage (8 leaves with collars), whichever comes first. This mixture will provide post-emergence control of weed species on the Glyphosate label and residual control of weed species on this label. Use the minimum rate of HELMET post-emergence with Glyphosate in Glyphosate-tolerant corn as specified in **HELMET Preplant Incorporated or Preemergence in Corn** under the **CORN HELMET ALONE** section above according to soil texture and organic matter. Refer to the Glyphosate label and follow appropriate use directions, application procedures, precautions and limitations. Refer to the Glyphosate label for directions to control problem species. Where difficult species and/or severe weed populations are expected, use the maximum rate where rate ranges are listed.

TANK-MIXTURE WITH GLYPHOSATE + ATRAZINE

For Postemergence Application to Glyphosate-Tolerant Corn (Roundup Ready® or Agrisure®GT)
The tank-mixture of HELMET + Atrazine + Glyphosate can be applied post-emergence to weeds and to corn designated as Glyphosate-tolerant. Application may be applied post-emergence to Glyphosate-tolerant corn from emergence up to 12 inches in height. This mixture will provide post-emergence control of weed species on the Glyphosate label and residual control of weed species on this label + Atrazine label. Use the minimum rate post-emergence of HELMET + Atrazine with Glyphosate in Glyphosate-tolerant corn as specified in **HELMET Preplant Incorporated or Preemergence in Corn** under the **Tank-Mixture with Atrazine or Princep, or Atrazine + Pricep** section and Table 1 of this label according to soil texture and organic matter. Follow all applicable use directions, limitations, precautions and information regarding application to corn on this label, Atrazine and Glyphosate labels for application to Glyphosate-tolerant corn. Where difficult species and/or severe weed populations are expected, use the maximum rate where rate ranges are listed.

COTTON

HELMET ALONE

1. Application:

Apply HELMET preemergence only in Area 1 (AR, LA, MS, TN, and Bootheel of MO) at the rate of 0.50-1.0 pt./A on sandy loams, 0.67-1.33 pts./A on medium soils, or 1.0-1.33 pts./A on fine soils.

Apply HELMET preplant incorporated or preemergence in Area 2 (NM, OK, and TX) at 1.0 pt./A on sandy loams, 1.0-1.33 pts./A on medium soils, or 1.33 pts./A on fine soils.

Apply HELMET postemergence to cotton and preemergence to weeds at 0.75-1.33 pts./A, according to the state rate limitations in the following **Postemergence** section.

Restriction: DO NOT use on sands and loamy sand.

2. Preplant Incorporated - NM, OK, and TX Only: Apply to the soil and incorporate into the top inch of soil immediately before planting, at planting, or after planting but before crop or weeds emerge. Uniformly incorporate use a rolling cultivator or similar implement to a depth of 1 inch or less (DO NOT incorporate more than 1 inch deep). Use a preplant incorporated application if furrow irrigation is used or when a period of dry weather after application is expected. Where furrow irrigation is used, wet the top of the bed for best results. If the crop is to be planted on beds, apply and incorporate after bed formation. Plant cotton below the zone of incorporation; i.e., at least 1 inch on fine soils and 1.5 inches on coarse and medium soils. If incorporated prior to planting, use a planter that will result in a minimum of soil disturbance.

Note: For best yellow nutsedge control and seedling johnsongrass suppression, apply HELMET preplant incorporated at the maximum rate for the soil texture, whether applied alone or mixed with Caparol 4L.

3. Preemergence: Apply to the soil surface at planting or after planting but before weeds or crop emerge.

4. Postemergence: Apply HELMET broadcast over-the-top or directed to the soil surface, according to the rate and cotton height limitations listed below by state. HELMET will not control emerged weeds so apply before weed emergence or after clean cultivation to remove existing weeds. HELMET postemergence may be applied over any previous registered herbicide treatment. In sprinkler-irrigated areas, sprinkler-irrigate after application with ½-1 inch of water (½ inch on coarse-textured soils to 1 inch on fine-textured soils) to incorporate HELMET. In furrow-irrigated areas, apply HELMET, incorporate with a rolling cultivator or similar implement that provides uniform shallow incorporation (2 inches or less), and then irrigate. In non-irrigated areas, if at least ½ inch of rainfall does not occur within 10 days after application, cultivate with a rolling cultivator or similar implement that provides uniform shallow incorporation of HELMET.

AL, FL, GA, NC, SC and VA: Apply HELMET at 1.0-1.33 pts./A when cotton is 3-6 inches tall.

AR, LA, MO, MS and TN: Apply HELMET at 0.75-1.33 pts./A when cotton is 3-12 inches tall.

AR (clay soils), AZ, CA, OK, NM and TX: Apply HELMET at 1.0-1.33 pts./A when cotton is 3-12 inches tall but before August 1.

5. Multiple Applications: Use a weed control program with multiple applications of HELMET when weed pressure is heavy, difficult to control species are expected, or if re-infestation may occur. Apply as a preplant incorporated or preemergence treatment and follow with an application postemergence to cotton before weeds emerge or after clean cultivation to remove existing weeds, since HELMET will not control emerged weeds. Cotton must be at least 3 inches tall at the postemergence timing. Apply HELMET postemergence over a previous preplant or preemergence HELMET application as shown in Table 3 .

Table 3: Multiple HELMET Applications to Cotton

State	Multiple HELMET Applications to Cotton		
	Preplant Incorporated or Preemergence pts./A	**+**	**Postemergence and Cotton Height pts./A**
AR, LA, MO, MS, TN	0.50 – 1.33 Preemergence Only	+	0.50 – 1.33 To 3 - 12" Cotton
NM, OK, TX	0.67 – 1.33		0.67 – 1.33 To

		+	3 - 12" Cotton Before August 1
NC, VA	1.0 – 1.33 Preemergence Only	+	1.0 – 1.33 To 3 - 12" Cotton

In sprinkler-irrigated areas, apply HELMET and sprinkler irrigate after application with ½ -1 inch of water (½ inch on coarse-textured soils to 1 inch on fine-textured soils) to incorporate HELMET. In furrow-irrigated areas, apply HELMET, incorporate with a rolling cultivator or similar implement that provides uniform shallow incorporation (2 inches or less) - then irrigate. In non-irrigated areas, if at least ½ inch of rainfall does not occur within 10 days after application, cultivate with a rolling cultivator or similar implement that provides uniform shallow incorporation of HELMET.

Note: For best yellow nutsedge control and seedling johnsongrass suppression, apply HELMET preplant incorporated, preemergence, or postemergence to cotton and preemergence to weeds at the maximum rate for the soil texture, whether applied alone or in combinationsHELMET treatments may be applied over previous registered herbicide treatments.

Restrictions:

- DO NOT apply HELMET on sand or loamy sand soils.
- DO NOT apply more than a total of 2.0 pts./A on coarse soils or 4 pts./A of HELMET on medium and fine soils during a growing season.
- DO NOT apply HELMET in areas where water is likely to "pond" over the bed.
- To avoid concentration of HELMET in the seed furrow, DO NOT make broadcast applications to cotton planted in furrows more than 2 inches deep. Band applications may be made to cotton planted in furrows deeper than 2 inches, but band width must not exceed the width of the bottom of the furrow.
- In furrow-planted cotton, to avoid concentration in the furrow and potential injury, DO NOT apply HELMET postemergence until after first "knifing" or cultivation to level soil surface.
- DO NOT apply over-the-top in fluid fertilizer or any other adjuvant, surfactant, oil, or other pesticide not recommended in the cotton section of this label or injury may occur.
- DO NOT apply on Taloka silt loam.
- DO NOT use in Gaines County, TX.
- DO NOT graze or feed forage or fodder from cotton to livestock or illegal residues may result.

HELMET Tank Mixtures

It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

1) Tank Mixture with Caparol 4L

Tank mixtures of HELMET + Caparol 4L may be applied preplant incorporated or preemergence in water or fluid fertilizer. When fluid fertilizer is used as a carrier for HELMET, either alone or in combination with Caparol 4L, mix only the amount that will be sprayed in one operation.

Restriction: DO NOT allow these mixtures to stand without agitation. Only water may be used as a carrier for postemergence directed application.

In addition to those weeds controlled by HELMET alone, HELMET + Caparol 4L, applied preplant incorporated or preemergence, also controls the following weeds:

annual morningglory	junglerice	purslane
cocklebur*	lambsquarters	ragweed
coffeeweed*	malva	wild oats
groundcherry	mustard	
hairy night shade	prickly sida (teaweed)	
*shallow-germinating seedlings		

As a postemergence directed application, HELMET provides residual control of weed species on its label and Caparol 4L provides postemergence control and residual control of weeds on its label. HELMET will not control emerged weeds.

Preplant Incorporated or Preemergence: Apply HELMET + Caparol 4L, either preplant incorporated or preemergence, using the appropriate rate from Table 4. Cotton should be planted below the zone of incorporation; i.e., at least 1.0 inch on fine soils and 1.5 inches on coarse and medium soils. If incorporated before planting, use a planter that will result in a minimum of soil disturbance.

Table 4: HELMET + Caparol 4L – Cotton (NM, OK, TX)

USE AREAS	SOIL TEXTURE	BROADCAST RATES PER ACRE	
		HELMET	CAPAROL 4L
ALL	Sand, loamy sand	DO NOT USE	
OK and Blacklands and Gulf Coast of TX	Loams	0.85 - 1.33 pts.	2.4 pts.
	Clays	1.33 pts.	4.8 pts.
Rio Grande Valley of TX	Loams	0.85 - 1.33 pts.	3.2 pts.
	Clays	1.33 pts.	4.8 pts.
NM, High Plains, Rolling Plains, Edwards Plateau of TX and Southwest TX	Sandy Loam	0.85 - 1.0 pt.	1.6 pts.
	Loams	0.85 - 1.33 pts.	2.4 pts.
	Sandy clay loams	1.33 pts.	2.4 pts.
	Other clay loams	1.33 pts.	3.2 pts.

Postemergence-Directed (AR, AZ, CA, LA, MO, MS, NM, OK, TN and TX):
Tank mix HELMET with Caparol 4L in water and apply postemergence directed in cotton for control of emerged weeds listed on the Caparol 4L label and residual preemergence control of weeds controlled by HELMET and Caparol 4L. Also, application may be made after cultivation for residual preemergence control. These treatments may be applied over previous registered treatments, including HELMET, provided the maximum label rate of any product is not exceeded. DO NOT apply over-the-top of cotton or injury may occur.

Apply HELMET + Caparol 4L tank mixture in a minimum of 20 gals. of spray volume per acre. Follow all directions, limitations, and precautions on the Caparol 4L label when Caparol is applied as a postemergence-directed application. Refer to the directions, limitations, and precautions for use of HELMET under the **Cotton-HELMET Alone-Postemergence** section.

Restrictions:

- DO NOT make broadcast applications of HELMET + Caparol 4L to cotton planted in furrows more than 2 inches deep in order to avoid concentration in the seed furrow. Band applications may be made to cotton planted in furrows deeper than 2 inches, but to avoid crop injury band width must not exceed the width of the bottom of the furrow.
- DO NOT apply on sand or loamy sand soils.
- DO NOT apply HELMET in areas where water is likely to "pond" over the bed.
- DO NOT apply in cut areas of newly leveled fields, or in areas of excess salt.
- DO NOT apply to glandless cotton varieties.
- DO NOT apply on Taloka silt loam.
- DO NOT use in Gaines County, TX.
- DO NOT graze or feed forage or fodder from cotton to livestock or illegal residues may result.
- Refer to the Caparol 4L label for further instructions and limitations.

2) Tank Mixture with Cotoran DF
Tank mixture of HELMET + Cotoran DF may be applied preemergence for control of weeds controlled by HELMET alone and those listed on the Cotoran DF label. Additionally, this combination will control spotted spurge, hyssop spurge, nodding spurge, and prostrate spurge. Apply to soil surface at planting or soon after planting but before weeds or crop emerge, using the appropriate rates from Table 5. The tank mixture may be applied postemergence to cotton but preemergence to weeds, or it may be applied postemergence to both cotton and broadleaf weeds for control of weeds on the Cotoran label. Apply as a directed, semi-directed, or over-the-top spray. HELMET will not control emerged weeds but will provide preemergence control of species on its label.

Mixing Instructions: Incompatibility can occur when tank mixing HELMET and Cotoran DF. To help overcome this condition mix as follows:

- Fill the spray tank ¼ full with water or fluid fertilizer.
- Start agitation.

- Add Cotoran DF and allow it to become dispersed.
- Add X-77 at 0.5% volume/volume final spray (4 pts./100 gals.).
- Add the HELMET.
- Finish filling tank with the rest of the water or fluid fertilizer.
- Agitate during mixing and application to maintain a uniform suspension.
- DO NOT use fluid fertilizer as a carrier for postemergence applications.

Table 5: HELMET + Cotoran DF-Cotton

SOIL TEXTURE	BROADCAST RATES PER ACRE		
	HELMET		COTORAN DF***
	AREA 1*	AREA 2**	
Sand, loamy sand	DO NOT USE		
Sandy loam	0.50 - 1.0 pt.	0.85 - 1.0 pt.	1.2 lbs.
Loam, silt, silt loam	0.67 - 1.33 pts.	1.0 - 1.33 pts.	1.2 - 1.9 lbs.
Fine soil	1.0 - 1.33 pts.	1.33 pts	1.9 - 2.4 lbs.
*Area 1 = AR, LA, MO Bootheel, MS and TN			
**Area 2 = Eastern OK, Gulf Coast, Rio Grande Valley, and Eastern TX			
***When using Cotoran 4L, use equivalent rates. Multiply lbs. of Cotoran DF by 1.7 to get pts. of Cotoran 4L.			

Postemergence: This tank mixture may be applied postemergence to cotton but preemergence to weeds or postemergence to both cotton and weeds for control of weeds on the Cotoran label. Apply as a directed, semi-directed, or over-the-top spray (over-the-top applications may cause cotton injury). HELMET will not control emerged weeds but will provide preemergence control of species on its label. Apply when cotton is in the 3- to 12-inch stage. Where rate ranges are given for Cotoran DF, use the higher rate when applying postemergence to weeds that are 2 inches or less. These treatments may be applied over previous registered treatments, including HELMET, provided the maximum label rate of any product is not exceeded.

Restrictions:

- DO NOT apply HELMET + Cotoran on sand or loamy sand soils.
- DO NOT apply HELMET in areas where water is likely to "pond" over the bed.
- DO NOT make broadcast applications of HELMET + Cotoran to cotton planted in furrows more than 2 inches deep in order to avoid concentration in the seed furrow. Band applications may be made to cotton planted in furrows deeper than 2 inches, but to avoid crop injury band width must not exceed the width of the bottom of the furrow.
- The use of Cotoran following the use of a systemic insecticide at planting may result in crop injury.
- DO NOT use on Taloka silt loam, or crop injury may occur.
- DO NOT use in Gaines County, TX.
- DO NOT use fluid fertilizer as a carrier for postemergence applications.
- DO NOT graze or feed forage or fodder from cotton to livestock or illegal residues may result.
- Refer to the Cotoran labels for further instructions, precautions, and limitations.

3) Tank Mixture of HELMET or HELMET + Cotoran with Helmquat 3SL (paraquat) or Helosate Plus Advanced (glyphosate) **for Minimum-Tillage or No-Tillage Systems**
When cotton is planted into a cover crop, stale seedbed, or previous crop residues in minimum-tillage or no-tillage systems the contact herbicides - Helmquat 3SL (paraquat) or Helosate Plus Advanced (glyphosate) - may be added to a tank mix of either HELMET or HELMET + Cotoran. The Helmquat 3SL (paraquat) portion of the tank mixture controls most emerged weeds and suppresses many perennial weeds when used as directed. The Helosate Plus Advanced (glyphosate) portion of the tank mixture will control emerged annual and perennial weeds when applied as directed on the label. The HELMET and HELMET + Cotoran portion of the tank mixture will provide preemergence control of weeds listed on this label in the HELMET and HELMET + Cotoran sections, respectively.

Observe planting details, application information, geographical restrictions, and all other precautions and limitations on the label of each product used in tank mix. Refer to **Mixing Instructions** under the **Tank Mixture with Cotoran DF** section to reduce the potential of tank mix compatibility issues.
Application: Apply before, during, or after planting, but before the cotton emerges, at the rates specified below. Apply HELMET at 0.85-1.0 pts./A on sandy loams, medium-, and fine-textured soils. Refer to Table 5 for the Cotoran DF rates.
Helmquat 3SL (paraquat): Apply as directed on the product label. This treatment will not control weeds taller than 6 inches.
Restriction: DO NOT apply combinations containing Helmquat 3SL (paraquat) in suspension-type liquid fertilizers, as the activity of paraquat will be reduced.

Helosate Plus Advanced (glyphosate)**:** See the Helosate Plus Advanced (glyphosate) label for weeds controlled, labeled rates, and other use directions.
Restriction: DO NOT apply HELMET + Cotoran 4L + Helosate Plus Advanced (glyphosate) in tank mixture because of compatibility problems.

Apply in 20-60 gals. of water or fluid fertilizer per acre with ground equipment.
Precautions:
- Crop injury may result if heavy rain occurs soon after application especially in poorly drained areas where water stands for several days, or where the seeding slit has not been properly closed.
- Refer to the Cotoran labels and the **Tank Mixture with Cotoran DF** section of this label for further instructions, precautions, and limitations.

Restriction:
- DO NOT use in Gaines County, TX.

4) Tank Mixture with MSMA, MSMA + Caparol, or MSMA + Cotoran
HELMET may be applied as a postemergence directed tank mix with MSMA in water for control of emerged weeds listed on the MSMA product label and residual preemergence control of

weeds controlled by HELMET. The addition of Caparol or Cotoran will add control of weed species on their respective labels.

Postemergence-Directed (AR, AZ, CA, LA, MO Bootheel, MS, NM, OK, TN and TX):
Apply HELMET + MSMA postemergence-directed to 3- to 12-inch cotton according to the directions, limitations, and precautions on the MSMA product label as well as all directions, limitations, and precautions for use of HELMET in the section for **Cotton-HELMET Alone-Postemergence**. DO NOT apply after first cotton bloom. These treatments may be applied over previous registered treatments, including HELMET, provided the maximum label rate of any product is not exceeded. Cotoran or Caparol may be added to the HELMET + MSMA tank mixture according to the respective label directions for application to 3- to 12-inch cotton. When these mixtures are used, follow the mixing instructions for HELMET + Caparol or Cotoran and then add the MSMA product.

DO NOT use HELMET in tank mix with premixes of MSMA plus herbicides other than those registered for use in tank mixture with HELMET on cotton.

PEANUTS

HELMET ALONE
Apply HELMET alone either preplant incorporated, postplant incorporated, or preemergence using the appropriate rate specified below.
Southeast - 1.0 - 1.33 pts./A (For partial control of Florida beggarweed - 1.33 - 2.0 pts./A)
NM, OK and TX - 0.85 - 1.33 pts./A

Note:

(1) HELMET alone may be applied as directed after any of the following preplant incorporated herbicides when used according to their label recommendations: Balan at 3 - 4 qts./A; Treflan E.C. at 1 pt./A; Vernam at 2.33 - 3 pts./A; Sonalan at 1.25- 3 pts./A; Pursuit at 0.25 pt./A; or Prowl at 1 - 2 pts./A.

Restrictions:

- DO NOT graze or feed peanut forage or fodder to livestock for 30 days following application.
- DO NOT apply within 90 days of harvest or illegal residues may result.

HELMET TANK MIXTURES
It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

1) Tank Mixture with Balan L.C.
HELMET + Balan tank mixture applied preplant incorporated controls those weeds listed under **HELMET Applied Alone** and those weeds as listed on the Balan label.

Apply HELMET at 1.0-1.33 pts./A + Balan at 3-4 qts./A by ground application in a minimum of 10 gals. of spray volume per acre or by aerial application in a minimum of 5.0 gals. of spray volume per acre. Follow the recommended procedures for Balan on the Balan label for soil preparation and incorporation of this tank mix. Apply and incorporate HELMET + Balan up to 14 days prior to planting.
Note: Follow all restrictions and precautions on the Balan label.

2) Tank Mixture or Sequentially with Pursuit
A tank mixture or sequential treatment of HELMET and Pursuit controls all weeds controlled by HELMET alone and by Pursuit alone.
Refer to the **HELMET Applied Alone** section for weeds controlled by HELMET and to the Pursuit label for weeds controlled by Pursuit. Refer to the respective labels and follow all directions-application methods, timings, limitations, precautions, rates and restrictions for the use of these products on peanuts and follow the most restrictive. DO NOT exceed the label rate of either product. HELMET will not control emerged weeds.

3) Tank Mixture with Sonalan
A tank mixture of **HELMET + Sonalan** controls all weeds controlled by HELMET alone and by Sonalan alone. Refer to the **HELMET Applied Alone** section for weeds controlled by HELMET and to the Sonalan label for weeds controlled by Sonalan. Apply tank mixture preplant incorporated, using the appropriate rate from Table 6. Follow recommended soil preparation procedures for Sonalan. Refer to the Peanut Sonalan/HELMET Tank Mixture label for incorporation specifications.

Table 6: HELMET + Sonalan-Peanuts

SOIL TEXTURE	BROADCAST RATES PER ACRE			
	Southeast		NM, OK, TX	
	HELMET	Sonalan	HELMET	Sonalan
Coarse	1.0 + 1.33 pts.	1.25 - 2.0 pts.	0.85 - 1.33 pts.	1.25 - 2.0 pts.
Medium	1.0 + 1.33 pts.	1.75 - 2.5 pts.	0.85 - 1.33 pts.	1.75 - 2.5 pts.
Fine	1.0 + 1.33 pts.	2.25 - 3.0 pts.	0.85 - 1.33 pts.	2.25 - 3.0 pts.

Note: Follow all use directions, limitations, precautions, and information regarding application to peanuts on the HELMET and Sonalan labels.

4) Tank Mixture with Prowl
A tank mixture of HELMET + Prowl applied preplant incorporated controls all weeds controlled by HELMET alone plus Texas panicum, field sandbur, johnsongrass from seed, lambsquarters, kochia, annual spurge, and other species on the Prowl label. Apply HELMET + Prowl by ground or by air within 14 days before planting. Incorporate into the top 1-2 inches of soil before planting and within 7 days of application. Use a finishing disk or similar implement set to provide uniform incorporation. If peanuts will be planted on beds, apply and incorporate after bed formation. Refer to the **Incorporation** instructions of the

respective labels for additional directions. Apply HELMET + Prowl preplant incorporated using the appropriate rates from Table 7.

Table 7: HELMET + Prowl-Peanuts

SOIL TEXTURE	BROADCAST RATES PER ACRE	
	NM, OK, TX	OTHER STATES
	HELMET + PROWL	HELMET + PROWL
Sand, loamy sand	0.85 + 1.0 - 1.5 pts.	1. 0 - 1.33 + 1.5 - 2.0 pts.
Sandy loam	0.85 - 1.0 + 1.0 - 1.5 pts.	1. 0 - 1.33 + 1.5 - 2.0 pts.
Fine soil	1.33 + 1.0 - 1.5 pts.	1.33 + 1.5 - 2.0 pts.

Note: Follow all use directions, limitations, precautions, and information regarding application to peanuts on the HELMET and Prowl labels.

5) Tank Mixture with Helmquat 3SL (paraquat)

Tank mixtures of HELMET + Helmquat 3SL (paraquat) applied at ground cracking or sequentially will control or suppress small (1-6 inch) emerged annual grass and broadleaf weeds and provide residual control of weed species listed in the **HELMET Applied Alone** section of this label. Apply Helmquat 3SL (paraquat) plus the appropriate HELMET rate from the Peanuts - HELMET Alone section in a minimum spray volume of 20 gal/A with ground equipment. Refer to the respective labels and follow all directions, timings, limitations, precautions and restrictions for the use of these products on peanuts and follow the most restrictive.

6) Tank Mixture with Helmquat 3SL (paraquat) + Basagran

Adding Basagran to the HELMET + Helmquat 3SL (paraquat) mixture will result in improved control of several problem broadleaf weeds such as prickly sida, cocklebur, smartweed, and bristly starbur. HELMET + Helmquat 3SL (paraquat) + Basagran applied at ground cracking or sequentially will control or suppress small (1-6 inch) emerged annual grass and broadleaf weeds and provide residual control of weed species listed in the **HELMET Applied Alone** section of this label. Apply Basagran + Helmquat 3SL (paraquat) with the appropriate **HELMET** rate from the Peanuts – **HELMET** Alone section in a minimum spray volume of 20 gal/A with ground equipment. Refer to the respective labels and follow all directions, timings, limitations, precautions and restrictions for the use of these products on peanuts and follow the most restrictive.

7) Tank Mixture with Helmquat 3SL (paraquat) + Butyrac 200 or Butoxone 200

Adding Butyrac 200 or Butoxone 200 to the HELMET + **Helmquat 3SL (paraquat)** mixture will result in improved control of such problem broadleaf weeds as sicklepod, morningglory, and cocklebur. HELMET + **Helmquat 3SL (paraquat)** + Butyrac 200 or Butoxone 200 applied at ground cracking or sequentially will control or suppress small (1-6 inch) emerged annual grass and broadleaf weeds and provide residual control of weed species listed in the **HELMET Applied Alone** section of this label. Apply Helmquat 3SL (paraquat) + Butyrac 200 or

Butoxone 200 with the appropriate **HELMET** rate from the Peanuts – **HELMET** Alone section in a minimum spray volume of 20 gal/A with ground equipment. Refer to the respective labels and follow all directions, timings, limitations, precautions and restrictions for the use of these products on peanuts and follow the most restrictive.

8) TANK MIXTURE WITH BASAGRAN

HELMET + Basagran applied at ground cracking or sequentially will control species on the Basagran label and provide residual control of species listed in the **HELMET Applied Alone** section of this label. Apply 1-2 pts./A of Basagran in 20 gals./A, depending on weed species and stage of growth as specified on the Basagran label, with the appropriate HELMET rate from the **Peanuts-HELMET Alone** section. A follow-up (2nd) Basagran application may be made in all peanut growing areas if needed. Refer to the respective labels and follow all directions, timings, limitations, precautions and restrictions for the use of these products on peanuts follow the most restrictive.

9) Tank Mixture or Sequentially with Basagran + Butyrac 200 or Butoxone 200

HELMET + Basagran + Butyrac 200 or Butoxone 200 applied at ground cracking or sequentially will control species on the Basagran label and on the Butyrac or Butoxone labels, especially morningglories. Apply 1.5-2 pts./A of Basagran + 8 fl. oz./A of Butyrac 200 or Butoxone 200 in 20 gals./A, depending on weed species and stage of growth as specified on the Basagran label, with the appropriate HELMET rate from the **Peanuts-HELMET Alone** section. A follow-up (2nd) Basagran + Butyrac 200 or Butoxone 200 application may be made in all peanut growing areas, if needed. Refer to the respective labels and follow all directions, timings, limitations, precautions and restrictions for the use of these products on peanuts follow the most restrictive.

10) Tank Mixture or Sequentially with Storm

Apply HELMET according to the directions for HELMET Alone and follow with a postemergence treatment of Storm, as specified on its label for the control of weeds listed on the HELMET label and on the Storm label. HELMET will not control emerged weeds. Refer to the respective labels and follow all directions, timings, limitations, precautions and restrictions for the use of these products on peanuts and follow the most restrictive.

MULTIPLE APPLICATIONS

Where weed pressure is heavy or where species difficult to control are expected, HELMET is most effective when used as follows:

Southeast Only (AL, FL, GA, NC, SC, VA)

Preplant Incorporated:

Apply HELMET preplant incorporated as directed under Peanuts – HELMET Alone or apply HELMET + Balan preplant incorporated as directed previously in this section. Refer to the respective section for weeds controlled.

OR

Preemergence to before "ground cracking":
Apply HELMET any time from preemergence to before "ground cracking" at 1.0-2.0 pts./A for extended control of weeds not yet emerged. DO NOT use HELMET after peanut emergence. If peanuts have emerged, use HELMET SPC according to its label: **Peanuts – Combinations – Multiple Applications**.

Follow the PPI or PRE application by:

Lay-by: DO NOT use HELMET. Apply HELMET SPC at lay-by as directed under the Peanuts – Alone section of the HELMET SPC label.
Restrictions:

- DO NOT apply more than the equivalent of 2.67 lbs. of active ingredient of HELMET per acre during any one year, or illegal residues may result. If HELMET SPC is used as a sequential treatment, the lbs. of active ingredient (1.0 pt. = 0.95 lb.) plus the lbs. of active ingredient of HELMET must not exceed 2.67 lbs. DO NOT use HELMET after peanuts have emerged.
- DO NOT graze or feed peanut forage or fodder to livestock for 30 days following application.
- DO NOT apply within 90 days of harvest, or illegal residues may result.

Southwest Only (NM, OK, TX)
1st Application:
Apply HELMET preplant incorporated or preemergence to before "ground cracking" as directed under Peanuts – HELMET Alone or apply HELMET + Balan preplant incorporated as directed previously in this section. DO NOT use HELMET after peanut emergence. If peanuts have emerged, use HELMET SPC according to its label.
2nd Application:
DO NOT use HELMET. Apply HELMET SPC at lay-by as directed under the Peanuts – Alone Section of the HELMET SPC label. Use only when late germinating weeds are expected to be a problem. Refer to the product Applied Alone section for a list of weeds controlled.
Restrictions:

- DO NOT apply more than the equivalent of 2.67 lbs. of active ingredient of HELMET per acre during any one year, or illegal residues may result. If HELMET SPC is used as a sequential treatment, the lbs. of active ingredient (1.0 pt. = 0.95 lb.) plus the lbs. of active ingredient of HELMET must not exceed 2.67 lbs. DO NOT use HELMET after peanuts have emerged.
- DO NOT graze or feed peanut forage or fodder to livestock for 30 days following application.
- DO NOT apply within 90 days of harvest, or illegal residues may result.

POD CROPS

Pod crops - Beans, Peas and Lentils including garbanzo, great northern beans, kidney beans, lima beans, mung beans, navy beans, peas (English*; southern peas, such as blackeye, pinkeye, crowder, etc.), pinto beans, snap beans (green, wax, string), lentils, and lupines (sweet, white, white sweet, and grain).

* Use only preemergence applications on English peas. DO NOT use on English peas in northeastern U.S. or injury may occur. If soils are cold and wet during pea germination and emergence, the use of HELMET may delay maturity and/or reduce yields.

HELMET ALONE
Apply HELMET, either preplant incorporated or preemergence, using the appropriate rate specified below.
Fall Application:
- Apply after September 30 in ND, SD, MN, WI, and north of Route 30 in IA.
- Apply after October 15 north of Route 91 in NE and south of Route 30 in IA.
- Apply after October 31 north of Route 136 in IL.

In all locations, apply after harvest to crop stubble when the sustained soil temperature at a 4-inch depth is less than 55°F and falling.

HELMET Fall Use Rates in Pod Crops:
Minimum-tillage or no-tillage systems – OM > 2.5%
- 1.67-2.0 pts./A on medium-textured
- 2.0 pts./A on fine-textured soils.

Tillage prior to application is acceptable. A fall and/or a spring tillage may follow application, but DO NOT exceed an incorporation depth greater than 2-3 inches. Minimize furrow and ridge formation in the tillage operations.
Restrictions: DO NOT apply to frozen ground. If a spring application is made, the total rate of the fall plus spring applications must not exceed the maximum total rate for beans, peas, and lentils.

Spring Application:
Apply HELMET, either preplant incorporated or preemergence, using the appropriate rate specified below.

Preplant Incorporated or Preemergence:
Follow instructions for use of HELMET alone under Application Procedures.

HELMET Spring Use Rates in Pod Crops:
Coarse soils
- < 3% OM - 1.0-1.33 pts./A
- > 3% OM - 1.33 pts./A

Medium soils
- 1.33-1.67 pt./A

Fine soils
- < 3% OM - 1.33-1.67 pts./A
- > 3% OM - 1.67-2.0 pts./A

Restrictions:
- DO NOT cut for hay within 120 days following a HELMET application or illegal residues may result.

- DO NOT use for forage within 60 days following a HELMET application.
- DO NOT apply more than 2.0 pts./A of HELMET during any one crop year.

HELMET COMBINATIONS

It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Note: When applying HELMET in combination on pod crops, DO NOT cut for hay within 120 days following application or illegal residues may result.

1) Tank Mixture and Sequential Applications with Eptam-Beans (Green or Dry)

HELMET + Eptam mixture controls all weeds controlled by HELMET alone and by Eptam alone. Refer to the **HELMET Applied Alone** section of this label for weeds controlled by HELMET alone and to the Eptam label for weeds controlled by Eptam.

Preplant Incorporated: Follow instructions for use of HELMET alone under **Application Procedures.**

Sequential: Apply Eptam alone preplant incorporated as specified on that label. Follow with a preemergence application of HELMET at rates specified for HELMET alone, during planting (behind the planter), or after planting but before the weeds or crop emerge.

Refer to the **Product Information** section of this label and to the Eptam label for weather, cultural practices, and all other precautions and limitations that affect performance of these products.

Apply 2.5-4.5 pts./A of Eptam 7E* with HELMET as specified below.

HELMET Use Rates when Tank Mixed with Eptam:

Coarse soils
- < 3% OM – 0.85 pt./A
- > 3% OM - 1.0 pt./A

Medium soils
- < 3% OM –1.0 pt./A
- > 3% OM - 1.33 pts./A

Fine soils
- < 3% OM - 1.33 pts./A
- > 3% OM – 1.33 - 1.67 pts./A

*Refer to the Eptam label for rate limitations depending on geographical area and for species and varietal restrictions.

Restrictions: DO NOT exceed 3.5 pts./A of Eptam 7E on small white beans or green beans grown on coarse-textured soils. Follow all restrictions and precautions on the respective Eptam 7E label and in the Beans, Peas, and Lentils – **HELMET Alone** section of this label.

2) Tank Mixture with Treflan-Beans (Dry-Kidney, Navy, Pinto, etc.; Lima; and Snap)

HELMET + Treflan tank mix applied preplant incorporated controls those weeds listed under **HELMET Applied Alone** and those weeds listed for Treflan alone on the Treflan label. HELMET + Treflan may be applied by ground or air and incorporated up to 14 days prior to planting. Follow the procedures on this label and on the respective Treflan label using equipment that provides uniform 2-inch incorporation.

Apply HELMET + Treflan tank mix using the appropriate HELMET rate specified for HELMET alone, and the Treflan rate from the Dry Beans, and the Lima and Snap Beans sections of the respective Treflan label. Choose the product rate for the specific soil texture/organic matter classification and weed species expected.
Note: Refer to the respective labels and follow all directions, timings, limitations, precautions and restrictions for the use of these products on pod crops and follow the most restrictive.

POTATOES

HELMET ALONE
Apply HELMET alone, either soil incorporated, preemergence, or after hilling/lay-by, according to directions specified below for control of weeds listed under the **Product Information** section. Within a rate range, use the lower rate on coarse textured soil or low in organic matter; use the higher rate on fine-textured soils or high in organic matter. Effectiveness will be reduced if later cultural practices expose untreated soil.

Soil Incorporated: Apply HELMET at 1.0-2.0 pts./A to the soil and uniformly incorporate into the top 3 inches before planting using a finishing disk, harrow, rolling cultivator, or similar implement. DO NOT bring untreated soil to the surface at planting and during later cultural practice (or weed control will be decreased). Postplant incorporated application may be made any time after planting to drag-off but before potato emergence. Use an implement that evenly distributes HELMET in the top 2 inches of soil. Avoid damaging potato seed pieces or sprouts with incorporation equipment.

Preemergence: Apply HELMET at 1.0-2.0 pts./A, either after planting as a preemergence, delayed preemergence, after drag-off or hilling treatment, but before weeds emerge. Up to 2.75 pts./A of HELMET alone may be used where soil organic matter is between 6% and 20%.

After Hilling/Lay-by: Apply 1.67 pts./A of HELMET after hilling/at lay-by to control HELMET sensitive species for remainder of the growing season. This hilling/at lay-by application of HELMET will not control emerged weeds. It may be applied over a previous HELMET application but DO NOT apply more than 3.7 pts./A of HELMET in a single crop season.
Precautions:

- If cool, wet soil conditions occur after application, HELMET may delay maturity and/or reduce yield of Superior and other early maturing potato varieties.

Restrictions:

- Preharvest interval: DO NOT harvest potatoes treated with HELMET within 60 days after the at-planting to drag-off application, or within 40 days after a lay-by application or illegal residues may result.
- DO NOT use on muck or peat soils.
- DO NOT apply to sweet potatoes or yams.
- DO NOT apply both as a preemergence and an incorporated treatment.
- DO NOT use in Kern County, CA.

HELMET COMBINATIONS

It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

1. Tank Mixture with Sencor

In addition to those weeds controlled by HELMET alone, HELMET applied in tank mix combination with, or sequentially with, any of the registered Sencor formulations, also controls the following broadleaf weeds: cocklebur*, hairy nightshade*, hemp sesbania, jimsonweed*, lambsquarters, prickly sida, ragweed, smartweed, velvetleaf, Venice mallow, and wild mustard.
*Partially controlled.

Apply HELMET at 1.0-2.0 pts./A plus the labeled Sencor use rate preemergence through after last hilling.

HELMET Use Rates when Tank Mixed With Sencor:

Coarse soils
- 1.0 - 1.33 pts./A

Other soil types
- 1.33 – 2.0 pts./A

Within these rate ranges, use the lower rate on soils relatively coarse-textured or low in organic matter; use the higher rate on soils relatively fine-textured or high in organic matter.
Effectiveness will be reduced if later cultural practices expose untreated soil. HELMET will not control emerged weeds. Refer to the respective labels and follow all directions, timings, limitations, precautions and restrictions for the use of these products on potatoes and follow the most restrictive.

Precautions:

- To avoid crop injury postemergence applications, with the exception of center pivot application, to potatoes should be made only as a directed or semi-directed spray to avoid chlorosis, minor necrosis, or leaf distortion.

Restrictions:

- Preharvest interval: DO NOT harvest potatoes treated with HELMET + Sencor within 60 days after application or illegal residues may result.

- DO NOT use on muck or peat soils.
- DO NOT apply both as a preemergence and an incorporated treatment.
- DO NOT use in Kern County, CA.
- DO NOT apply to sweet potatoes or yams.

2. HELMET + Lorox Tank Mixture (East of Rocky Mountains)

HELMET may be tank-mixed with any registered Lorox formulations as a preemergence broadcast application to potato east of the Rocky Mountains. Apply to the soil surface after planting and before emergence of the crop or after final drag-off according to the rates specified in Table 8 .

Table 8: HELMET + Lorox-Potatoes (East of Rocky Mountains)

SOIL TEXTURE	BROADCAST RATES PER ACRE			
	1% to Less Than 3% Organic Matter		3 to 5% Organic Matter	
	HELMET	Lorox*	HELMET	Lorox*
Coarse Sandy loam	1.0 pt.	1.0 - 1.5 lbs.	1.33 pts.	1.5 - 2.0 lbs.
Medium Loam, silt loam, silt	1.33 pts.	1.5 - 2.0 lbs.	1.67 - 2.0 pts.	2.0 - 2.5 lbs.
*When using Lorox L or Lorox DF, use equivalent rates. One pt. of Lorox L equals 1 lb. of Lorox DF.				

Restrictions:

- DO NOT use on sands or loamy sands.
- DO NOT incorporate or spray over the top of emerged potatoes.
- Preharvest interval: DO NOT harvest potatoes treated with HELMET + Lorox within 60 days after application or illegal residues may result.

Refer to the respective labels and follow all directions, timings, limitations, precautions and restrictions for the use of these products on potatoes and follow the most restrictive.

3. Tank Mixture with Prowl 4E

In addition to the weeds controlled by HELMET alone, a tank mixture with Prowl 4E controls such problem species as kochia, lambsquarters, purslane, annual spurge, stinging nettle, and others specified on the Prowl 4E Alone label. Apply HELMET + Prowl 4E preemergence, preemergence incorporated, or early postemergence, according to the specific directions on the Prowl 4E label, using the rates in Table 9 .

Table 9: HELMET+ Prowl 4E-Potatoes

SOIL TEXTURE	BROADCAST RATES PER ACRE	
	Less than 3% Organic Matter	More than 3% Organic Matter
	HELMET + PROWL 4E	HELMET + PROWL 4E
Coarse	1.0 - 1.33 pts. + 1.0 - 1.5 pts.	1.0 - 1.33 pts. + 1.0 - 1.5 pts.
Medium	1.33 pts. + 1.5 - 2.0 pts.	1.33 - 1.67 pts. + 2.0 - 3.0 pts.

Fine	1.33 - 1.67 pts. + 2.0 - 3.0 pts.	1.67 - 2.0 pts. + 3.0 pts.
*When using other formulations of Prowl, use equivalent rates of active ingredient. Refer to the respective labels and follow all directions, timings, limitations, precautions and restrictions for the use of these products on potatoes and follow the most restrictive.		

Tank Mixture with Prowl 4E + Eptam
In addition to the weeds controlled by HELMET alone, this tank mixture will control those species on the Prowl 4E and Eptam labels. Refer to the HELMET + Prowl 4E labels for rates of those products and add Eptam 7E at 3.5-7.0 pts./A, depending on geographical area. Refer to the respective HELMET, Prowl 4E, and Eptam labels and observe all directions, limitations, precautions, and restrictions concerning the use of these products on potatoes and follow the most restrictive.

SAFFLOWER

HELMET ALONE
Preplant Incorporated or Preemergence: Follow instructions for use of HELMET alone under **Application Procedures.**

HELMET Use Rates in Safflower:
Coarse soils
- < 3% OM – 1.0 – 1.33 pts./A
- > 3% OM - 1.33 pts./A

Medium soils
- 1.33 – 1.67 pts./A

Fine soils
- < 3% OM - 1.33 – 1.67 pts./A
- > 3% OM – 1.67 – 2.0 pts./A

GRAIN OR FORAGE SORGHUM (SEED TREATED WITH CONCEP®)

HELMET ALONE
Apply HELMET, as a preplant surface, preplant incorporated, or preemergence application, using the appropriate rate specified below. Apply HELMET alone **only** when the sorghum seed has been properly treated by the seed company with Concep seed treatment. Preplant or preemergence applications of HELMET to sorghum not treated with Concep seed treatment will result in crop death.

Preplant Surface-Applied: Refer to instructions for use of HELMET under **Application Procedures.** In minimum-tillage or no-tillage systems only, apply HELMET up to 45 days before planting in CO, IA, IL, KS, MO, NE, and SD. Use only split applications for treatments made 30-45 days prior to planting, with 2/3 of the broadcast rate applied initially and the remaining 1/3 at

planting. Apply 1.50 pts./A of HELMET on medium soils or 1.67 pts./A on fine soils. Treatments made less than 30 days prior to planting may be made either as a split or single application. Apply 1.33 pts./A of HELMET on coarse soils not more than 2 weeks prior to planting. Under dry conditions, irrigation after application is recommended to move HELMET into the soil.

Preplant Incorporated or Preemergence: Refer to instructions for use of HELMET under **Application Procedures.** Broadcast 1.0-1.33 pts./A of HELMET on coarse soils, 1.33-1.50 pts./A on medium soils, or 1.33-1.67 pts./A on fine soils.

Precautions:

- If sorghum seed is not properly treated with Concep seed treatment, preplant and preemergence applications of HELMET will severely injure or cause crop death.
- Under high soil moisture conditions prior to sorghum emergence, injury may occur following preplant and preemergence application of HELMET. The crop will normally outgrow this effect.

Restrictions:

- DO NOT use HELMET on sorghum grown under dry mulch tillage, or injury may occur.
- Except for the split preplant surface treatment, DO NOT make more than one HELMET application per year.

HELMET COMBINATIONS

It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

HELMET tank mixtures with AAtrex may be applied in water or fluid fertilizer. Apply HELMET in tank mixtures only when the sorghum seed has been properly treated by the seed company with Concep.

IMPORTANT: FOR TANK MIXTURES WITH AATREX (OR OTHER BRANDS OF ATRAZINE) If applying HELMET in tank mixture with AAtrex, all the restrictions and rate limitations on the AAtrex label must be followed if more restrictive/protective than those on this label. In addition, if AAtrex is/must be applied at rates lower than those listed on this label, broadleaf weed control may be affected. Refer to the AAtrex label for weeds controlled at the reduced rates.

Note: Certain states have established rate limitations for atrazine within specific geographical areas. Consult your state lead pesticide control agency for additional information. It is a violation of this label to deviate from state use regulations.

Precautions:

- Applications of HELMET + AAtrex on highly alkaline soils or on eroded areas where calcareous subsoils are exposed may cause sorghum injury.
- If sorghum seed is not properly treated with Concep seed treatment, preplant and preemergence applications of HELMET + AAtrex will severely injure or cause crop death.
- Under high soil moisture conditions prior to sorghum emergence, injury may occur following the use of HELMET + AAtrex. The crop will normally outgrow this effect.

Restrictions:

- DO NOT use HELMET + AAtrex on sorghum grown under dry mulch tillage or injury may occur.
- Except for the split preplant surface treatment, DO NOT make more than one application per year or illegal residues may result.

1. Tank Mixture with AAtrex

HELMET + AAtrex controls the following broadleaf weeds when applied either preplant surface, preplant incorporated, or preemergence: cocklebur, common purslane, hairy nightshade, lambsquarters, morningglory, ragweed, smartweed, and velvetleaf in addition to the weeds controlled by HELMET alone.

Preplant Surface-Applied: Refer to instructions for use of HELMET under **Application Procedures**. For minimum-tillage or no-tillage systems only, HELMET + AAtrex may be applied up to 45 days prior to planting in IA, IL, eastern KS, MO, NE, and SD. Use only split applications for treatments made 30-45 days prior to planting, with 2/3 of the broadcast rate applied initially and the remaining 1/3 at planting. Apply 1.50 pts./A of HELMET + 1.7-2 lbs./A of AAtrex Nine-O* on medium soils with 1.5% organic matter or greater. Apply 1.50 pts./A of HELMET + 1.7-2 lbs./A of AAtrex Nine-O on fine soils with less than 1.5% organic matter, or apply 1.67 pts./A of HELMET + 2-2.2 lbs./A of AAtrex Nine-O on fine soils with 1.5% organic matter or greater. Treatments less than 30 days prior to planting may be made either as a split or single application. Under dry conditions, irrigation after application is recommended to move HELMET + AAtrex into the soil.

Restrictions:

- DO NOT use on coarse soils.
- DO NOT use on medium soils with less than 1.5% organic matter.

Preplant Incorporated or Preemergence: Refer to instructions for use of HELMET under **Application Procedures**. On medium soils with 1.5% organic matter or greater, apply 1.0 pt./A of HELMET + 1.3 lbs./A of AAtrex Nine-O*. On fine soils with less than 1.5% organic matter, apply 1.0 pt./A of HELMET + 1.3 lbs./A of AAtrex Nine-O; on fine soils with 1.5% organic matter or greater, apply 1.2-1.33 pts./A of HELMET + 1.6-1.8 lbs./A of AAtrex Nine-O.

*When using AAtrex 4L, use equivalent rates. One lb. of AAtrex Nine-O equals 1.8 pts. of AAtrex 4L.

Restrictions:

- DO NOT use on coarse soils.
- DO NOT use on medium soils with less than 1.5% organic matter.
- DO NOT use in NM, OK, or TX, except in northeast OK and the TX Gulf Coast and Blacklands areas.
- DO NOT apply preplant incorporated in AZ or the Imperial Valley of CA.

2. Tank Mixture of HELMET or HELMET + AAtrex, with Helmquat 3SL (paraquat), Landmaster BW, or Helosate Plus Advanced (glyphosate) **for Minimum-Tillage or No-Tillage Systems**

In minimum-tillage or no-tillage systems where sorghum (seed treated with Concep or Screen) is planted directly into a cover crop, stale seedbed, established sod, or previous crop residues, the contact herbicides Helmquat 3SL (paraquat), Landmaster BW, or Helosate Plus Advanced (glyphosate) may be tank mixed with HELMET or HELMET + AAtrex. See Comment below.* The HELMET or HELMET + AAtrex portion of the tank mixture provides preemergence control of the weeds listed on this label under the respective sections.

*In Minimum-Tillage and No-Tillage systems, mix with Helmquat 3SL (paraquat) for control of most emerged annual weeds and suppression of perennial weeds; or with Landmaster BW for suppression of emerged field bindweed and control or suppression of annual weeds; or with Helosate Plus Advanced (glyphosate) for control of most emerged annual and perennial weeds.

Refer to the label of each product used in combination and observe the planting details, restrictions, and all other precautions and limitations.

Application: Apply before, during, or after planting, but before sorghum emerges. Add Helmquat 3SL (paraquat), Landmaster BW, or Helosate Plus Advanced (glyphosate) and apply as directed on the product labels.
Helmquat 3SL (paraquat): Apply as directed on the product label. This treatment will not control weeds taller than 6 inches.
Landmaster BW: Apply as directed on the product label. See the Landmaster BW label for weeds controlled, listed rates for specific weeds, and other information concerning use.
Helosate Plus Advanced: Apply as directed on the Helosate Plus Advanced (glyphosate) brand label. See label for weeds controlled, use rates, and other use directions.
Note: Refer to the respective labels and follow all directions, timings, limitations, precautions and restrictions for the use of these products on peanuts and follow the most restrictive.

Apply in a minimum of 20 gals. of water per acre with conventional spray equipment.

SOYBEANS

HELMET ALONE
Apply HELMET, either preplant surface-applied, preplant incorporated, preemergence or postemergence using the appropriate rate specified below. **Preplant Surface-Applied, Preplant Incorporated, or Preemergence:** Follow instructions for use of HELMET alone under **Application Procedures.**

Preplant Surface-Applied

1) Fall Application – Apply based on the following dates for different geographic areas
MN, ND, SD, WI and North of Route 30 in IA - after September 30
NE - North of Route 91 and South of Route 30 in IA - after October 15

IL - North of Route 136 - after October 31

In all areas, apply to crop stubble after harvest when the sustained soil temperature at a 4-inch depth is less than 55°F and falling. In minimum-tillage or no-tillage systems on soils having greater than 2.5% organic matter, use 1.67-2.0 pts./A on medium-textured and 2.0 pts./A on fine-textured soils. A tillage operation may before the application. Application may be followed by a fall and/or a spring tillage. However, DO NOT exceed an incorporation depth greater than 2-3 inches. Minimize furrow and ridge formation in the tillage operations.
Restrictions: DO NOT apply to frozen ground. If a spring application is made, the total rate of the fall plus spring applications must not exceed the maximum total rate for soybeans or illegal residues may result.

Use on medium and fine soils with minimum-tillage or no-tillage systems in CO, CT, DE, IA, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, MT, ND, NE, NH, NY, OH, PA, RI, SD, TN, VA, VT, WI, WV, and WY.
Apply 2/3 of the listed rate of HELMET (1.67 pts./A on medium soils and 2.0 pts./A on fine soils) as a split treatment 30-45 days prior to planting. The remainder should be applied at planting. If application is to be made less than 30 days before planting it may be applied either a split or single treatment. Apply 1.33 pts./A on coarse soils not more than 2 weeks prior to planting.

Preplant Incorporated or Preemergence

Apply in soybeans as Preplant Incorporated or Preemergence application using the following rates.

HELMET Preplant Incorporated or Preemergence in Soybean:

Coarse soils
- < 3% OM - 1.0-1.33 pts./A
- > 3% OM - 1.33 pts./A

Medium soils
- 1.33-1.67 pt./A

Fine soils
- < 3% OM - 1.33-1.67 pts./A
- > 3% OM - 1.67-2.0 pts./A

Restriction: HELMET may be used in soybeans up to 2.55 pts./A as a preplant surface-applied, preplant incorporated, or preemergence treatment on soils having an organic matter content between 6% and 20%. The total HELMET rate applied to soybeans during any one crop should not exceed 2.55 pts./A.

Postemergence Application

From emergence up through the 5th trifoliate leaf stage

Apply Helmet at 1.0 – 1.33 pts./A to soybeans as a postemergence application from emergence up through the 5th trifoliate leaf stage. Apply Helmet to a weed-free surface as Helmet will not control emerged weeds. If weeds are present at the time of application, Helmet may be tankmixed with products that provide postemergence control of the emerged weeds.

Restrictions:

- DO NOT apply within 90 days of harvest or illegal residues may result.
- DO NOT apply more than 1.33 pts./A of Helmet postemergence or illegal residues may result.
- DO NOT graze or feed treated forage or hay from soybeans to livestock following a postemergence application of Helmet.
- DO NOT apply a postemergence application of Helmet if a preplant surface, preplant incorporated or preemergence application of metolachlor products has already been applied.

HELMET COMBINATIONS

It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Water or fluid fertilizer may be used as carrier for HELMET in combination with Sencor, Lorox, Canopy, Pursuit, Scepter, Sonalan, or Command.

Restriction: For all of the following combinations, HELMET may be used up to 2.5 pts./A on soils having an organic matter content between 6% and 20%. The total HELMET rate applied to soybeans during any one crop year must not exceed 2.55 pts./A.

1) Tank Mixture with Sencor

HELMET + Sencor when applied as directed controls the following broadleaf weeds: cocklebur*, hairy nightshade, hemp sesbania, jimsonweed*, lambsquarters, prickly sida, ragweed, smartweed, velvetleaf, Venice mallow, and wild mustard in addition to those weeds controlled by HELMET alone.

*Partially controlled.

Apply HELMET and Sencor preplant incorporated or preemergence using the rates in Table 10 . **Preplant Incorporated or Preemergence:** Follow instructions for use of HELMET alone under **Application Procedures.**

Sequential: Apply HELMET alone **Preplant Incorporated**, as specified in Table 10 for this tank mixture. Follow with a preemergence application of Sencor during planting (behind the planter) or after planting but before weeds or soybeans emerge. Refer to the Sencor label for planting details and soybean variety restrictions.

Table 10: HELMET + Sencor - Soybeans

SOIL TEXTURE**	BROADCAST RATES PER ACRE	
	0.5% to less than 3% Organic Matter	3% Organic Matter or Greater
	HELMET + SENCOR*	HELMET + SENCOR*
Coarse Loamy sand (over 2% organic matter), sandy loam	0.85 - 1.0 pt. + 0.33 lb.	1.0 pt. + 0.5 lb.
Medium	1.0 - 1.33 pts. + 0.5 lb.	1.33 pts. + 0.067 lb.***
Fine	1.33 pts. + 0.67 lb.	1.33 - 1.67 pts. + 0.67 lb.
Mississippi Delta only Silty clay, clay	1.33 pts. + 1.0 lb.	1.33 - 1.67 pts. + 1.0 lb.
Muck or Peat (soils with more than 20% OM	DO NOT USE	
*When using Sencor 4, multiply lbs. of DF by 1.5 to get pts./A.		
**On all sand and on loamy sand with less than 2% organic matter, DO NOT use this tank mixture preemergence or the sequential treatment. DO NOT use the tank mixture preplant incorporated on any sand, loamy sand, or sandy loam or crop injury may occur.		
***Use 0.5 lb./A if applied preplant incorporated.		

Restrictions:

- DO NOT use tank mix or sequential application on soil with less than 0.5% organic matter.
- DO NOT use tank mix or sequential application on alkaline soil with a pH over 7.4 or crop injury may occur.
- If heavy rain occurs soon after application, crop injury may result, especially in poorly drained areas where water stands for several days.

2) Tank Mixture with Lorox

HELMET + Lorox when applied preemergence controls the following broadleaf weeds: cocklebur*, jimsonweed*, lambsquarters, morningglory*, prickly sida, ragweed, smartweed, velvetleaf*, Venice mallow, and wild mustard in addition to those weeds controlled by HELMET alone.

*Partially controlled.

Preemergence: Apply during planting (behind planter) or after planting, but before weeds or soybeans emerge. Refer to the Lorox label for planting details. Apply the appropriate rates from Table 11.

Precautions: DO NOT use on soil with less than 0.5% organic matter or crop injury may occur.

Table 11: HELMET + Lorox-Soybeans

SOIL TEXTURE*	BROADCAST RATES PER ACRE	
	0.5% to less than 3% Organic Matter	3% Organic Matter or Greater
	HELMET + Lorox DF**	HELMET + Lorox DF**
Coarse	0.85 + 1.0 lb.	1.0 pt. + 1 - 1.5 lb.
Medium	1.0 pt. + 1 - 1.5 lb.	1.33 pts. + 1.5 - 2.0 lbs.
Fine	1.33 pts. + 2.0 lb.	1.33 - 1.67 pts. + 2.5 - 3.0 lbs.
Muck or Peat (soils with more than 20% OM	DO NOT USE	
*DO NOT use on sand, gravelly soils, or exposed subsoils.		
**DO NOT use on loamy sand except in the northeastern U.S. on loamy sand with over 1% organic matter.		
When using Lorox L or Lorox DF, use equivalent rates. One pt. of Lorox L equals 1 lb. of Lorox DF.		

3) Tank Mixture with Treflan

HELMET + Treflan tank mix applied preplant incorporated controls weeds listed under the **HELMET Applied Alone** section and those weeds listed for Treflan Alone on the Treflan label. HELMET + Treflan tank mixture may be applied by ground or by aerial equipment and incorporated up to 14 days before planting. Follow the procedures on the Treflan and HELMET labels using equipment that provides uniform 2-inch incorporation.

Apply HELMET + Treflan tank mix, using the appropriate rate from the **Soybeans-HELMET Alone** section of this label and the Treflan Alone section of the Treflan label for the specific soil texture/organic matter classification and weed species expected.

*To control DNA-resistant goosegrass and other species on the respective labels where the soil organic matter is 3% or less, apply the rate listed in Table 12 .

Table 12: HELMET + Treflan-Organic Matter Content Less Than 3%

SOIL TEXTURE	BROADCAST RATES PER ACRE		
	HELMET	TREFLAN EC**	
		Organic Matter	
	Organic Matter Less Than 3%	Less Than 2%	2 - 3%
Coarse	0.85 - 1.0 pt.	1.0 pt.	1.5 pts
Medium	1.0 pt.	1.5 pts.	1.5 pts
Fine soil	1.33 pts	2.0 pts	2.0 pts
* When a range of rates is given for HELMET use the minimum HELMET rate where DNA-resistant goosegrass is the predominant species.			

**When Treflan MTF or Treflan 5 is used, use comparable rates. Multiply pts. of Treflan E.C. by 1 for Treflan MTF and by 0.8 for Treflan 5.

Note: Follow all restrictions and precautions on the respective Treflan label and in the **Soybeans-HELMET Alone** section of this label.

4) Tank Mixture with Scepter

A tank mixture of HELMET + Scepter controls all weeds controlled by HELMET alone and by Scepter alone. Refer to the **HELMET Applied Alone** section for weeds controlled by HELMET and to the Scepter label for weeds controlled by Scepter. Refer to the Scepter label for geographical locations where this tank mixture may be applied.

Apply HELMET + Scepter preplant incorporated or preemergence using rates in Table 13 . Follow use directions under **Application Instructions** on the Scepter label. For preplant incorporated applications, apply and incorporate within 30 days before planting. Observe all other precautions and limitations on the Scepter labels.

Table 13: HELMET + Scepter-Soybeans

SOIL TEXTURE	BROADCAST RATES PER ACRE			
	Less Than 3% Organic Matter		3% or More Organic Matter	
	HELMET	Scepter	HELMET	Scepter
Coarse	0.85 pt.	0.67 pt.	1.0 pt.	0.67 pt.
Medium	1.0 pts.	0.67 pt.	1.67 - 2.0 pts.	0.67 pt.
Fine	1.33 pts	0.67 pt.	1.33 - 1.67 pts*	0.67 pt.
Muck or Peat (soils with more than 20% organic matter)	DO NOT USE			
*Use the higher rate of HELMET if heavy weed infestations are expected.				

Restrictions:

- DO NOT apply within 90 days of harvest
- DO NOT graze or feed treated soybean forage, hay, or straw to livestock or illegal residues may result.

5) Tank Mixture with Canopy

This tank mixture controls all weeds controlled by both HELMET and Canopy when applied alone. Refer to the **HELMET Applied Alone** section for weeds controlled by HELMET and to the Canopy label for weeds controlled by Canopy. Apply preplant incorporated or preemergence using the appropriate rates from Table 14 .

Preplant Incorporated: Apply within 2 weeks of planting. Uniformly incorporate into the top 1-2 inches of soil before planting soybeans.

Preemergence: Apply after planting, but before soybeans emerge.
Note: Follow all use directions, varietal restrictions, limitations, precautions, information regarding application to soybeans, and rotational restrictions on the HELMET and Canopy labels.

Table 14: HELMET + Canopy-Soybeans

SOIL TEXTURE	BROADCAST RATES PER ACRE		
	HELMET		Canopy
	Less Than 3% Organic Matter	3% or More Organic Matter	
Coarse	0.85 pt.	1.0 pt.	*
Medium	1.0 pt.	1.33 pts.	*
Fine soil	1.33 pts	1.33 - 1.67 pts.	*
*Refer to the Canopy label for appropriate rate according to geographical location, soil and organic matter classification, and pH limitations.			

Restrictions: DO NOT apply to sand, or to any soil with less than 0.5% organic matter, or to any soil with pH greater than 7.0, except as noted on the Canopy label.

6) Tank Mixture with Command*

HELMET tank mixed with Command controls all weeds controlled by HELMET alone and Command alone. Refer to the **HELMET Applied Alone** section for weeds controlled by HELMET and to the Command label for weeds controlled by Command.
Apply HELMET + Command preplant incorporated, using rates in Table 15 . Follow all Command application instructions as to incorporation interval, geographical location, equipment operation, soil moisture conditions, etc.
***Note:** Before making applications, read and strictly follow all use directions, limitations, precautions, information regarding application to soybeans, and rotational restrictions on the HELMET and Command labels.

Table 15: HELMET + Command-Soybeans

SOIL TEXTURE	BROADCAST RATES PER ACRE			
	HELMET		Command 4E	
	0.5 - 3% Organic Matter	Greater than 3% Organic Matter	Northern Area	Southern Area
Coarse	0.85 pt.	1.0 pts.	1.5 - 2.0 pt.	2 - 2.5 pts.
Medium	1.0 pts.	1.33 pts.	1.5 - 2.0 pt.	2 - 2.5 pts.
Fine	1.33 pts	1.33 - 1.67 pts.	1.5 - 2.0 pt.	2 - 2.5 pts.

7) Tank Mixture with Sonalan

HELMET tank mixed with Sonalan controls all weeds controlled by HELMET alone and by Sonalan alone. Refer to the **HELMET Applied Alone** section for weeds controlled by HELMET and to the Sonalan label for weeds controlled by Sonalan.
Apply HELMET and Sonalan preplant incorporated using the appropriate rates from Table 16.

Preplant Incorporated: Follow soil preparation procedures for Sonalan. Refer to the Sonalan/ HELMET Tank Mixture label for incorporation specifications.
Sequential: Apply Sonalan alone preplant incorporated as specified on the Sonalan label. Follow with a preemergence application of HELMET during planting (behind the planter) or after planting but before weeds or soybeans emerge.

Table 16: HELMET + Sonalan-Soybeans

SOIL TEXTURE	BROADCAST RATES PER ACRE			
	Less Than 3% Organic Matter		3% or More Organic Matter	
	HELMET	Sonalan	HELMET	Sonalan
Coarse	1.0 - 1.33 pts.	1.25 - 2.0 pts.	1.33 pts.	1.25 - 2.0 pts.
Medium*	1.33 - 1.67 pts.	1.75 - 2.5 pts.	1.33 - 1.67 pts.	1.75 - 2.5 pts.
Fine*	1.33 - 1.67 pts.	2.25 - 3.0 pts	1.67 - 2.0 pts.	2.25 - 3.0 pts.
Muck or Peat (soils with more than 20% organic matter)	DO NOT USE			
*For eastern black nightshade on these soils, apply Sonalan at 3 pts./A on medium- and 3.5 pts./A on fine-textured soils, and follow with 2 incorporation passes.				

Note: Follow all use directions, limitations, precautions, and information regarding application to soybeans on the HELMET and Sonalan labels.

8) Tank Mixture with Pursuit

HELMET tank mixed with Pursuit controls all weeds controlled by HELMET alone and by Pursuit alone. Refer to the **HELMET Applied Alone** section for weeds controlled by HELMET and to the Pursuit label for weeds controlled by Pursuit. Refer to the Pursuit label for geographical locations where this tank mixture may be applied. Apply HELMET + Pursuit early preplant, preplant incorporated, or preemergence after planting using rates in Table 17 . Application may be made in water or liquid fertilizer. Follow all use directions under Soil Applications on the Pursuit label. For early preplant and preplant incorporated applications, apply within 30 days before planting.
Note: Follow all use directions, limitations, precautions, information regarding application to soybeans, and rotational restrictions on the HELMET and Pursuit labels.

Table 17: HELMET + Pursuit-Soybeans

SOIL TEXTURE	BROADCAST RATES PER ACRE		
	HELMET		Pursuit
	Less Than 3%Organic Matter	3% or More Organic Matter	
Coarse	0.85 pt.	1.0 pt.	0.25 pt.
Medium	1.0 pt.	1.33 pts.	0.25 pt.
Fine soil	1.33 pts	1.33 - 1.67 pts.	0.25 pt.

Sequential: Apply HELMET early preplant, preplant incorporated, or preemergence after planting at 0.85 pt./A on coarse soils and 1.0 pt./A on medium- and fine-textured soils. Follow with a sequential postemergence application of Pursuit to control emerged weeds according to the Pursuit label. HELMET will improve the consistency and level of control from Pursuit on most grass species. Refer to the Pursuit postemergence label for a listing of weeds controlled, application rate, and growth stage limitations.

9) Tank Mixture with Sencor, Scepter, Lorox, Canopy, or Pursuit, plus Helmquat 3SL (paraquat) or Helosate Plus Advanced (glyphosate) **for Minimum-Tillage or No-Tillage Systems**
In minimum-tillage or no-tillage systems where soybeans are planted directly into a cover crop, stale seedbed, established sod, or previous crop residues, the contact herbicides Helmquat 3SL (paraquat) or Helosate Plus Advanced (glyphosate) may be added to a tank mix of either HELMET + Sencor, HELMET + Scepter, HELMET + Lorox, HELMET + Canopy, or HELMET + Pursuit. When used as directed, the Helmquat 3SL (paraquat) portion of the tank mixture controls most emerged weeds and suppresses many perennial weeds. Helosate Plus Advanced (glyphosate) combinations will control emerged annual and perennial weeds when applied as directed on the Helosate Plus Advanced (glyphosate) label. The HELMET + Sencor, Scepter, Lorox, Canopy or Pursuit portion of the tank mixture provides preemergence control of the weeds listed on this label in the tank mixture section for HELMET + Sencor, HELMET + Scepter, HELMET + Lorox, HELMET + Canopy, and HELMET + Pursuit, respectively. Refer to the label of each product used in combination and observe the planting details, soybean variety restrictions, information regarding application to soybeans, geographical restrictions, and all other precautions and limitations.

Refer below for rates of Helmquat 3SL (paraquat) or Helosate Plus Advanced (glyphosate), HELMET + Sencor, HELMET + Scepter, HELMET + Lorox, HELMET + Canopy, and HELMET + Pursuit, respectively.

Application: Apply before, during, or after planting, but before the soybeans emerge, at the rates specified below. Add Helmquat 3SL (paraquat) or Helosate Plus Advanced (glyphosate) at the following broadcast rates:

Helmquat 3SL (paraquat): Apply as directed on the product label. This treatment will not control weeds taller than 6 inches.
Restriction: DO NOT apply combinations containing Helmquat 3SL (paraquat) in suspension type liquid fertilizers as the activity of paraquat will be reduced.

Helosate Plus Advanced (glyphosate)**:** See the Helosate Plus Advanced (glyphosate) label for weeds controlled, labeled rates, and other use directions. Apply in 20-60 gals. of water or fluid fertilizer per acre with ground equipment.

HELMET + Sencor + Helmquat 3SL (paraquat) or Helosate Plus Advanced (glyphosate)
Loamy sand with over 2% organic matter - apply 1.0 pt./A of HELMET + 0.33-0.5 lb./A of Sencor.

Medium soils - apply 1.33 pts./A of HELMET + 0.5-0.67 lb./A of Sencor.
Fine soils - apply 1.33-1.67 pts./A of HELMET + 0.67 lb./A of Sencor.
* When using Sencor 4, multiply lbs. of DF by 1.5 to get pts./A.

Restrictions:

- To avoid crop injury, DO NOT use this tank mixture on soil with less than 0.5% organic matter, on alkaline soil with a pH over 7.4, or on all sand and loamy sand with less than 2% organic matter.
- If heavy rain occurs soon after application, crop injury may result, especially in poorly drained areas where water stands for several days or where the seeding slit has not been properly closed.

HELMET + Scepter + Helmquat 3SL (paraquat) or Helosate Plus Advanced (glyphosate)
Coarse soils - apply 1.0 pt./A of HELMET + 0.67 pt./A of Scepter.
Medium soils - apply 1.33 pts./A of HELMET + 0.67 pt./A of Scepter.
Fine soils, apply 1.67 pts. /A of HELMET + 0.67 pt./A of Scepter.

Restrictions:

- DO NOT apply within 90 days of harvest.
- DO NOT graze or feed treated soybean forage, hay, or straw to livestock or illegal residues may result.

HELMET + Lorox + Helmquat 3SL (paraquat) or Helosate Plus Advanced (glyphosate)
Coarse soils* - apply 1.0 pt./A of HELMET + 1-1.5 lbs./A of Lorox DF**.
Medium soils - apply 1.33 pts./A of HELMET + 1-2 lbs./A of Lorox DF.
Fine soils, apply 1.33-1.67 pts./A of HELMET + 2-3 lbs./A of Lorox DF.
** When using Lorox L or Lorox DF, use equivalent rates. One pt. of Lorox L equals 1.0 lb. of Lorox DF.

Restrictions:

- *DO NOT use on loamy sand except in the northeastern U.S. on loamy sand with over 1% organic matter or injury may occur.
- *DO NOT use on sand, gravelly soils, or exposed subsoils or injury may occur.
- DO NOT use on soil with less than 0.5% organic matter or crop injury may occur.

HELMET + Canopy + Helmquat 3SL (paraquat) or Helosate Plus Advanced (glyphosate)
Use only where soils have 0.5-5% organic matter.
Coarse soils (except sand) - apply 1.0 pt./A of HELMET.
Medium soils - apply 1.33 pts./A of HELMET.
Fine soils - apply 1.33-1.67 pts./A of HELMET.
Refer to the Canopy label for appropriate rate according to geographical location, soil and organic matter classification, pH limitations, and all other use directions.

Restrictions:

- DO NOT apply to sand, or to any soil with less than 0.5% organic matter.
- DO NOT apply to any soil with pH greater than 7.0, except as noted on the Canopy label.

HELMET + Pursuit + Helmquat 3SL (paraquat) or Helosate Plus Advanced (glyphosate)
Coarse soils - apply 1.0 pt./A of HELMET + 0.25 pt./A of Pursuit.
Medium soils - apply 1.33 pts./A of HELMET + 0.25 pt./A of Pursuit.
Fine soils, apply 1.67 pts./A of HELMET + 0.25 pt./A of Pursuit.

APPENDICES

APPENDIX A:
Compatibility Test
Since liquid fertilizers can vary, even within the same analysis, always **check compatibility with herbicide(s) each time before use**. Be especially careful when using **complete** suspension or fluid fertilizers, as serious compatibility problems are more likely to occur. Commercial application equipment may improve compatibility in some instances. The following test assumes a spray volume of 25 gals./A. For other spray volumes, make appropriate changes in the ingredients. Check compatibility using this procedure:
1. Add 1 pt. of fertilizer to each of 2 one-qt. jars with tight lids.
2. To **one** of the jars, add 1/4 tsp. or 1.2 milliliters of a compatibility agent approved for this use, such as Compex or Unite (1/4 tsp. is equivalent to 2 pts./100 gals. spray). Shake or stir gently to mix.
3. To **both** jars, add the appropriate amount of herbicide(s). If more than one herbicide is used, add them separately with dry herbicides first, flowables next, and emulsifiable concentrates last. After each addition, shake, or stir gently to thoroughly mix. The appropriate amount of herbicides for this test follows:
• **Dry herbicides:** For each pound to be applied per acre, add 1.5 level teaspoons to each jar.
• **Liquid herbicides:** For each pint to be applied per acre, add 0.5 teaspoon or 2.5 milliliters to each jar.
Note: For HELMET tank mixtures with AAtrex plus Princep, use 1/3 - 1/2 the amount of AAtrex specified above and the remainder as Princep, depending on whether the 1:2 or 1:1 ratio of AAtrex to Princep is to be applied.
4. After adding all ingredients, put lids on and tighten, and invert each jar 10 times to mix. Let the mixtures stand 15 minutes and then look for separation, large flakes, precipitates, gels, heavy oily film on the jar, or other signs of incompatibility. Determine if the compatibility agent is needed in the spray mixture by comparing the 2 jars. If either mixture separates, but can be remixed readily, the mixture can be sprayed as long as good agitation is used. If the mixtures are incompatible, test the following methods of improving compatibility: (A) slurry the dry herbicide(s) in water before addition, or (B) add 1/2 of the compatibility agent to the fertilizer and the other 1/2 to the emulsifiable concentrate or flowable herbicide before addition to the mixture. If incompatibility is still observed, DO NOT use the mixture.

APPENDIX B:
Low Carrier Application
For Broadcast Ground Application Only

Use sprayers, such as Ag-Chem RoGator, Hagie, John Deere Hi-Cycle, Melroe Spra-Coupe, Tyler Patriot, or Willmar Air Ride, that provide accurate and uniform application. **Only water may be used as a carrier**. Screens in suction and in-line strainers should be 50-mesh. Manufacturers may require that tip screens as fine as 100-mesh be used with some nozzles. Use a pump with capacity to: (1) maintain up to 35-40 psi at the nozzles, and (2) provide sufficient agitation in tank to keep mixture in sprayer thoroughly with clean water immediately after each use.
Note: Use low-pressure nozzles to reduce drift and increase application accuracy. Care should be taken when using automatic rate controlling devices to spray the material within the rated working pressure and flow ranges of the nozzles selected. Use nozzle screens when directed by the manufacturer. Place all nozzles on 20-inch centers, except flooding types which should be placed on 40-inch centers. When flat fan-type nozzles are used, use angles of 80° or 110°. Always read and follow the manufacturer's directions for optimum setup and performance of their nozzles or tips.

APPENDIX C:
Aerial Application
Apply HELMET in water alone or in tank mixtures with AAtrex, Lorox, or Sencor in a minimum total volume of 2 gals./A by aircraft. HELMET may also be applied by air in combination with Balan, Prowl, or Treflan. Avoid application under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur. In order to assure that spray will be controllable within the target area when used according to label directions, make applications at a maximum height of 10 ft., using low-drift nozzles at a maximum pressure of 40 psi, and restrict application to periods when wind speed does not exceed 10 mph. To assure that spray will not adversely affect adjacent sensitive non-target plants, apply HELMET alone or HELMET plus AAtrex by aircraft at a minimum upwind distance of 400 ft. from sensitive plants, or apply HELMET plus Lorox, or Sencor at a minimum upwind distance of 300 ft. from sensitive plants. Avoid application to humans or animals. Flagmen and loaders should avoid inhalation of spray mist and prolonged contact with skin.

Aerial Drift Management:
Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator and the grower are responsible for considering these factors when making decisions.
The following drift management requirements must be followed to avoid off-target drift movements from aerial applications to agricultural field crops. These requirements DO NOT apply to forestry applications, public health uses, or to applications using dry formulations.
1. The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
2. Nozzles must always point backwards HELMET with the airstream and never be pointed downwards more than 45 degrees.

Where states have more stringent regulations, they must be observed. The applicator should be familiar with and take into account the information covered in the **Aerial Drift Reduction Advisory Information** section below.

Aerial Drift Reduction Advisory Management:
Information on Droplet Size
The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see **Wind, Temperature and Humidity**, and **Temperature Inversions**).

Controlling Droplet Size

- Volume - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.

- Pressure – DO NOT exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.

- Number of Nozzles - Use the minimum number of nozzles that provide uniform coverage.

- Nozzle Orientation - Orienting nozzles so that the spray is released HELMET to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.

- Nozzle Type - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid-stream nozzles oriented straight back produce the largest droplets and the lowest drift.

Boom Length
For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

Application Height
Applications must not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment
When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this

displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

Wind
Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application should be avoided when wind speed is below 2 mph due to variable wind directions and high inversion potential.

Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

Temperature and Humidity
When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversions
Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. The cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas
This pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive area).

APPENDIX D:
Center Pivot Irrigation Application
HELMET alone or in tank mixture with other herbicides on this label, which are registered for center pivot application, may be applied in irrigation water preemergence (after planting, but before weeds or crop emerge) at rates listed on this label. Apply this product only through a center pivot irrigation system. DO NOT apply this product through any other type of irrigation system. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. If you have questions about calibration, you should

contact State Extension specialists, equipment manufacturers, or other experts. DO NOT connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system, unless the pesticide label-prescribed safety devices for public water systems are in place. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Operating Instructions

1. The system must contain a functional check valve, vacuum-relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water-source contamination from backflow.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump or piston pump), effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7. DO NOT apply when wind speed favors drift beyond the area intended for treatment.
8. Prepare a mixture with a minimum of 1 part of water to 1 part herbicide(s) and inject this mixture into the center pivot system. Injecting a larger volume of a more dilute mixture per hour will usually provide more accurate calibration of metering equipment. Maintain sufficient agitation to keep the herbicide in suspension.
9. Meter into irrigation water during entire period of water application.
10. Apply in 1/2 - 1 inch of water. Use the lower water volume (1/2 inch) on coarse-textured soils and the higher volume (1 inch) on fine-textured soils. More than 1 inch of water at application may reduce weed control by moving the herbicide below the effective zone in the soil.

Precautions for center pivot applications: Where sprinkler distribution patterns DO NOT overlap sufficiently, unacceptable weed control may result. Where sprinkler distribution patterns overlap excessively, crop injury may result.

APPENDIX E:

Dry Bulk Granular Fertilizers

Many dry bulk granular fertilizers may be impregnated or coated with HELMET alone or selected HELMET tank mixtures which are registered for preplant incorporated or preplant surface

application which are used to control weeds in crops on the HELMET label and are not prohibited from use on dry bulk granular fertilizers.

When applying HELMET or HELMET mixtures with dry bulk granular fertilizers, follow all directions for use and precautions on the respective product labels regarding target crops, rates per acre, soil texture, application methods (including timing of application), and rotational crops.

All individual state regulations relating to dry bulk granular fertilizer blending, registration, labeling, and application are the responsibility of the individual and/or company selling the herbicide/fertilizer mixture.

Prepare the herbicide/fertilizer mixtures by using any closed drum, belt, ribbon, or other commonly used dry bulk fertilizer blender. Nozzles used to spray HELMET and HELMET mixtures onto the fertilizer must be placed to provide uniform spray coverage. Care should be taken to aim the spray directly onto the fertilizer only and to avoid spraying the walls of the blender.

If the herbicide/fertilizer mixture is too wet, add a highly absorptive material, such as Agsorb® or Celatom MP-79®, or similar granular clay or diatomaceous earth materials, to obtain a dry, free-flowing mixture. Absorptive materials should be added only after the herbicide has been thoroughly blended into the fertilizer mixture. Best application results will be obtained by using a granule of 6/30 particle size or of a size similar to that of the fertilizer material being used. Generally, less than 2% by weight of absorptive material will be needed. Avoid using more than 5% absorptive material by weight.

Calculate amounts of HELMET, AAtrex, AAtrex plus Princep, Princep, Sencor, or Sonalan by the following formula:

2000 lbs. of fertilizer per acre x pts./A of liquid or flowable product = pts. of liquid or flow flowable product per ton of fertilizer

2000 lbs. of fertilizer per acre x lbs./A of dry product = lbs. of dry product per ton of fertilizer

Pneumatic (Compressed Air) Application (HELMET Alone): High humidity, high urea concentrations, low fertilizer use rates, and dusty fertilizer may cause fertilizer mixture to build up or plug the distributor head, air tubes, or nozzle deflector plates. To minimize buildup, premix HELMET with Exxon Aromatic 200 at a rate of 1 - 4 pts./gal. of HELMET. Aromatic 200 is a noncombustible/nonflammable petroleum product. Aromatic 200 may be used in either a fertilizer blender or through direct injection systems. Drying agents should not be used when using Aromatic 200.

Note: (1) Mixtures of HELMET and Aromatic 200 must be used on dry fertilizer only. Poor results or crop injury may result if these mixtures are used in water or liquid fertilizer solutions for spraying applications. (2) When impregnating HELMET in a blender before application, a drier mixture can be attained by substituting a drying agent for Aromatic 200. The use of Agsorb FG

or drying agents of 6/30 particle size are recommended. (3) Drying agents are not recommended for use with On-The-Go impregnation equipment.

Precautions: To avoid potential for explosion: (1) DO NOT impregnate HELMET or HELMET mixtures on ammonium nitrate, potassium nitrate, or sodium nitrate, either alone or in blends with other fertilizers. (2) DO NOT use HELMET or HELMET mixtures on straight limestone, since absorption will not be achieved. Fertilizer blends containing limestone can be impregnated.

Apply 200-700 lbs. of the herbicide/fertilizer mixture per acre. For best results, apply the mixture uniformly to the soil with properly calibrated equipment immediately after blending. Uniform application of the herbicide/fertilizer mixture is essential to prevent possible crop injury. Non-uniform application may also result in unsatisfactory weed control. In areas where conventional tillage is practiced, a shallow incorporation of the mixture into the soil may improve weed control. On fine- or medium-textured soils in areas where soil incorporation is not planned, i.e., reduced tillage situations or in some conventional till situations, make applications approximately 30 days before planting to allow moisture to move the herbicide/fertilizer mixture into the soil. On coarse-textured soils, make applications approximately 14 days prior to planting.

Restriction: To avoid crop injury, DO NOT use the herbicide/fertilizer mixture on crops where bedding occurs.

STORAGE AND DISPOSAL

DO NOT contaminate water, food, or feed by storage or disposal.
PESTICIDE STORAGE: This product may be stored at temperatures down to -30°F.
PESTICIDE DISPOSAL: Open dumping is prohibited. Wastes resulting from the use of this product are toxic. Improper disposal of unused pesticide, spray mixture, or rinsate is a violation of Federal law. Pesticide, spray mixture, or rinsate that cannot be used according to label instructions must be disposed of according to Federal, state, or local procedures. For guidance in proper disposal methods, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office.

CONTAINER HANDLING:
Non-refillable Container (five gallons or less): Non-refillable container. DO NOT reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Puncture and dispose of in a sanitary landfill, or by incineration, or by open burning, if allowed by state and local authorities. If burned, keep out of smoke.

Non-refillable Container (greater than five gallons): Non-refillable container. DO NOT reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Puncture and dispose of in a sanitary landfill, or by incineration, or by open burning, if allowed by state and local authorities. If burned, keep out of smoke.

Refillable Container (greater than 55 gallons): Refillable container. Refill this container with metolachlor only. DO NOT reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. For final disposal, offer for recycling or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

Follow Directions for Use of this product carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of Helm Agro US, Inc. or Seller. To the extent of applicable law, all such risks shall be assumed by Buyer and User, and Buyer and User agree to hold Helm and Seller harmless for any claims relating to such factors.

Helm warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or Helm, and Buyer and User assume the risk of any such use. **TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, HELM MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.**

To the extent consistent with applicable law, in no event shall Helm or Seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF HELM AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF HELM OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

Helm and Seller offer this product, and Buyer and User accept it, subject to the foregoing conditions of sale and limitations of warranty and of liability, which may not be modified except by written agreement signed by a duly authorized representative of Helm.

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Sencor trademark of Bayer AG
Tyler Patriot™ trademark of Tyler Ltd. Partnership
Unite ® trademark of HACO, Inc.
Willmar Air Ride ® trademark of Willmar Manufacturing
X-77 ® trademark of Loveland Industries, Inc.

Manufactured for:

HELM

HELM AGRO Inc.
401 E. Jackson St., Suite 1400
Tampa, FL 33602
info@helmagro.com

Samek, Karen

From: Bert Volger <bertvolger@ceresinternational.com> Resubmission #2
Sent: Tuesday, December 20, 2016 10:24 AM
To: Samek, Karen
Subject: RE: Your new product application for 74530-TU; Helmet
Attachments: 074530-000TU-20161220b HELMET Master Label -EPA comments incorp-clean version.pdf

Hi Karen,

Here we are!

Please let me know, if you find any additional edits.

Thanks
Best regards,
Bert

From: Samek, Karen [mailto:Samek.Karen@epa.gov]
Sent: Tuesday, December 20, 2016 9:33 AM Deficiency #2
To: Bert Volger <bertvolger@ceresinternational.com>
Subject: RE: Your new product application for 74530-TU; Helmet

Hi Bert,

In looking this label over one last time I found a couple more edits. If you could take a look at the attached edits and send a clean copy as soon as possible that would be great.

Thanks,
Karen

From: Bert Volger [mailto:bertvolger@ceresinternational.com]
Sent: Monday, December 19, 2016 7:21 PM Resubmission #1
To: Samek, Karen <Samek.Karen@epa.gov>
Cc: Montague, Kathryn V. <Montague.Kathryn@epa.gov>
Subject: RE: Your new product application for 74530-TU; Helmet

Hi Karen,

Attached you will find the revised label with your comments incorporated.
Please let me know if I missed any, or if you have a question.

Thanks,
Bert

From: Samek, Karen [mailto:Samek.Karen@epa.gov]
Sent: Monday, December 19, 2016 2:15 PM Deficiency #1
To: Bert Volger <bertvolger@ceresinternational.com>
Cc: Montague, Kathryn V. <Montague.Kathryn@epa.gov>
Subject: Re: Your new product application for 74530-TU; Helmet

Hi Bert,

Attached are some edits for your consideration for 74530-TU. Please let me know if you have any questions.

Thanks,

Karen

Karen Samek

Registration Division

samek.karen@epa.gov

(703) 347-8825

From: Bert Volger <bertvolger@ceresinternational.com>
Sent: Wednesday, December 14, 2016 1:09 PM
To: Samek, Karen
Subject: RE: Your new product application for 74530-TU; Helmet

Hi Karen,

Good hearing from you! See attached the submitted label in pdf format.

Please let me know, if you have any questions.

Thanks,

Bert

From: Samek, Karen [mailto:Samek.Karen@epa.gov]
Sent: Wednesday, December 14, 2016 10:40 AM
To: Bert Volger <bertvolger@ceresinternational.com>
Subject: Your new product application for 74530-TU; Helmet

Hi Bert,

I'm working on your label for your new product 74530-TU, Helmet and was wondering if you could send me an electronic copy of the proposed label? This will make the label review go much more quickly.

Thanks,

Karen

Karen Samek

Registration Division

Samek.karen@epa.gov

(703) 347-8825

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

FEE

OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION
OFFICE OF PESTICIDE PROGRAMS REGISTRATION DIVISION (7505P)

DP BARCODE No.: D432909; **FILE SYMBOL No.**:74530-TU; **PRODUCT NAME**: HELMET **DECISION No.**:513659; **PC Code(s)**: 108801; **ACTION CODE**: R333; **FOOD Use**: Yes

~~This Document Contains Confidential Information~~

DATE OUT: Sept 6, 2016

SUBJECT: HELMET

FROM: Indira Gairola / Product Chemistry Team
CITAB / RD (7505P)

09/06/16
9/8/16

TO: Karen Samek / Kathryn Montague RM 23
Herbicide Branch / RD (7505P)

Company Name: Helm Agro US Inc.
Active Ingredient(s): Metolachlor (84.4%)

INTRODUCTION:

Registrant is submitting registration application for subject product HELMET. Applicant is submitting Basic CSF dated 02/11/16 and MRID #s 498327-01 to -05 for product chemistry Group A and Group B data to support this application. Applicant claims the product to be similar or identical to EPA Reg. #66222-87 Review for the Technical was done by Indira Gairola submitted on 07/15/16 and determined acceptable. CITAB (Chemistry Team) has been asked to determine the acceptability of the aforementioned subject product chemistry data and Basic CSF dated 02/11/16.

SUMMARY OF FINDINGS:

1. Name of Active Ingredient(s) (84.40%)
2. Has the registrant claimed substantial similarity to a registered product?
   [x] Yes; [ ] No; [ ] NA; if yes give the registration number of the cited product. EPA Reg. #66222-87
3. All of the source materials of the active ingredient are derived from registered sources- [x] Yes [ ] No
4. All inert ingredients have been screened by CITAB (Inert Team) and found to be approved for the proposed label uses - [x] Yes; [ ] No.

5. Confidential Statement of Formula(s):

[x] Basic - Dated: CSF dated 02/11/16

Re-submitted - Dated: [x] NA

[ ] Alternate CSFs– Dated: [x] NA

Alternate CSF(s) complies with 40CFR§152.43: [ ] Yes; [ ] No; [x] NA

6. Product label

a. Ingredient statement: Nominal concentration of AI listed on CSF(s) concurs with product label (PR Notice 91-2).
[x] Yes, if not, explain below:

Is the sub statement in compliance with PR Notice 97-6 (inert ingredient vs other ingredient)
[x] Yes; [ ] No; if not, explain below

Metallic equivalent:	[ ] Yes [x] NA;
Soluble arsenic:	[ ] Yes [x] NA
Isomeric ratios:	[ ] Yes [x] NA
Acid Equivalent:	[ ] Yes [x] NA; acid equivalent =

b. Health related sub statements: Product contains?

Petroleum distillate at > 10%:	[ ] Yes; [ ] No; [x] NA
Methanol at > 4%:	[ ] Yes; [ ] No; [x] NA
Sodium nitrate/sodium nitrite	[ ] Yes; [ ] No; [x] NA

c. Physical chemical hazard statement: Product label requires a statement per 40 CFR §156.78 for: flammability, explosive potential or electric insulator breakdown?
[ ] Yes [x] No

Is the sub statement in compliance with PR Notice 98-6 (Total Release Fogger)?
[ ] Yes; [ ] No; [x] NA; if not, explain below

d. Label requires an additional Storage and Disposal statement: [ ] Yes [x] No; if yes explain below:

7. Group **A**: Product Chemistry Data

CITAB's determination of the acceptability for the proposed product is listed in the tables below.

Guideline No.	Study Title		Data submitted		CITAB's Assessment of Data	MRID Nos. Cited
			Yes	No		
830.1550	Product Identity & Composition		x		A	498327-01
830.1600	Description of materials used to produce the product		x		A	498327-01
830.1650	Description of formulation process		x		A	498327-01
830.1670	Discussion on the formation of impurities		x		A	498327-01
830.1700	Preliminary analysis				NA	
830.1750	Certified limits (158.350)	Standard certified limits				
		Proposed Limits	x		A	
		Justification for wider limits				
830.1800	Enforcement analytical method[1]		x		A	498327-02

A = Acceptance, N = Not Acceptable, G = Data Gap, W = Waiver Request, I = In Progress, NA = Not Applicable; U = Upgradeable.

1. If validation of analytical method is not provided, the data requirements should be "N" (Not Acceptable)

8. Group **B:**

Guideline No.	Study Title	Value or Qualitative Description	CITAB's Assessment of Data	MRID Nos.
830.6303	Physical State	Clear liquid	A	4998327-01
830.6314	Oxidation/Reduction	The product does not contain oxidizing or reducing agent	A	498327-01
830.6315	Flammability	The product does not contain any flammable ingredients	A	498327-01
830.6316	Explodability	Does not contain explosive ingredients	A	498327-01
830.7000	pH	5.91 @20°C in 1% aqueous soln.	A	498327-03
830.7100	Viscosity	172.8±0.04 Centistokes @ 20.2°C, 46.8 Centistokes @ (40°C)	A	498327-05
830.7300	Density (units)	1.116 g/mL Average @20°C	A	498327-03
830.6317	Storage stability Or Accelerated storage stability	The product is stable appropriate studies are underway	I	498327-01
830.6320	Corrosion characteristics or Accelerated corrosion characteristics	Non corrosive; appropriate studies are underway	I	498327-01

A = Acceptance, N = Not Acceptable, G = Data Gap, W = Waiver request, NA = Not applicable, I = In progress; U = Upgradeable.

DP BARCODE No.: D432909; **FILE SYMBOL No.**:74530-TU; **PRODUCT NAME**: HELMET **DECISION No.**:513659; **PC Code(s)**: 108801; **ACTION CODE**: R333; **FOOD Use**: Yes

CONCLUSIONS:

CITAB has reviewed the product chemistry data submitted/cited for the end-use product and has concluded that:

Substantial similarity to the cited product (Reg. No. #6222-87) from Product chemistry view point

[ ] Similar
[x] Not similar, give reasons.
The nominal % of active ingredient and the inerts, are different.
[ ] Identical
[ ] Not identical
[ ] Not applicable

A. Confidential Statement of formula

1. Basic CSF (dated 02/11/16)
[x] Acceptable
[ ] Not Acceptable
[ ] Not Applicable

If not acceptable provide the reasons

2. Alternate CSFs
[ ] Acceptable -
[ ] Not Acceptable -
[x] Not Applicable
If not acceptable give reasons

B. Group A Product Chemistry Data

[x] Acceptable
[ ] Not acceptable
[ ] Acceptable with the exception of Guideline(s):
[ ] Not required
[ ] Data cited
[ ] Data cited

Group B Product chemistry data

[ ] Acceptable
[ ] Not acceptable
[ ] Not required
[ ] Data cited
[x] Acceptable with the exception of Guideline(s) 830.6320 Storage stability & 830.6317 Corrosion Characteristic data.

D Product Label /Draft Label Yes [ ]; No [x]

Samek, Karen

From: Mathur, Shyam
Sent: Monday, April 18, 2016 2:33 PM
To: Samek, Karen; Montague, Kathryn V.
Cc: Shah, Pv
Subject: 45/90 day screen for 91459-1 & 74530-TU
Attachments: 74530-TU (screen).doc; 91549-1 (altCSF#1 screen).doc

Shyam Mathur, Ph. D
Product Chemistry Team Leader
Chemistry, Inert & Toxicology Assessment Branch (CITAB)/RD (7505P)
OCSPP/Environmental Protection Agency, USA
Tel: 703-308-9374
mathur.shyam@epa.gov

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460
OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION
OFFICE OF PESTICIDE PROGRAMS REGISTRATION DIVISION (7505P)

DP BARCODE No.: D432909; **FILE SYMBOL No.**: 74530-TU (screen); **PRODUCT NAME**: Helmet; **DECISION No.**:513659; **PC Code(s)**: 108801; **ACTION CODE**: R333; **FOOD Use**: Yes

DATE OUT: April 18, 2016

SUBJECT: 45/90 day screen results for end use product "Helmet"

FROM: Shyam Mathur, Product Chemistry Team Leader CITAB/RD (7505P)

TO: Karen Samek / Kathryn Montague, RM 23, Herbicide Branch / RD (7505P)

Company Name: Helm Agro US Incorporation
Active Ingredient(s): Metolachlor (84.4%)
MRID No(s).: 49832701 to 498327-05

CONCLUSION:

Deficiencies: No
(if there are deficiencies they are indicated below each heading as Note 1, Note 2 Etc).

Group A: All required data submitted.

Group B: All required data submitted.

CSF: Basic CSF (dated 02-11-2016) submitted.

PRODUCT LABEL: Submitted

Note to PM: If the deficiencies are found in the screen results, please inform the registrant and bring back to the author of this report the corrected deficiencies in response to 10 day letter. The corrected deficiencies will be attached to the original bean, if the data package is still in CITAB. New Bean is required in case the bean has been closed by CITAB. Thank you.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY AND
POLLUTION PREVENTION

OFFICE OFPESTICIDE PROGRAMS
REGISTRATION DIVISION (7505P)

25/FEB/2016

SIMILARITY CLINIC MEMORANDUM

Subject:	Name of Pesticide Product:	Helmet
	EPA Reg. No. /File Symbol:	74530-TU
	DP Barcode:	D431811
	Decision No:	513659
	Action Code:	R333
	PC Code:	108801 (metolachlor)

From: Eugenia McAndrew, Biologist Eugenia McAndrew

Through: John C. Redden, Senior Risk Assessor JCR
Chemistry, Inerts and Toxicology Assessment Branch
Registration Division (7505P)

To: Kathryn Montague, Risk Manager Team 23
Herbicide Branch
Registration Division (7505P)

Applicant: Helm Agro US, Inc.
401 E Jackson St., Suite 1400
Tampa, FL 33602

FORMULATION FROM LABEL:

Active Ingredient(s):	% by wt.
Metolachlor	84.4
Other Ingredients:	15.6
Total:	100.0%

ACTION REQUESTED: Similarity determination for 74530-TU, proposed product, and 66222-87, cited product.

BACKGROUND: Helm Agro US, Inc. has applied for registration of Helmet, EPA File Symbol 74530-TU, claiming to be substantially similar to Parellel Herbicide, EPA Reg. No. 66222-87. Both products contain 84.4% metolachlor. The submission includes a basic CSF dated February 11, 2016, label, data matrix and company letter.

The registrant is using the cite all method of data support to satisfy the acute toxicity data requirements. After searching the OPP electronic databases, we were unable to locate any acute toxicity data for the cited product, 66222-87.

RECOMMENDATIONS:

1. We compared the basic CSFs and labels of the proposed product, 74530-TU, and the cited product, 66222-87, and determined that the two products are substantially similar.

2. Since we did not locate acute toxicity data or memos for the cited product, we cannot generate an acute toxicity profile for 74530-TU.

3. We recommend that the proposed product use the same precautionary labeling as the cited product. The signal word is Caution.

4. The proposed basic CSF submitted for 74530-TU must be reviewed and accepted by the product chemists in the Chemistry, Inerts and Toxicology Assessment Branch.

21-Day Screen Completed by Contractor

21-Day Expires on 2-29-16

Jacket # 74530-TU
MRID# 498327

Content Screen: Recommend to **Pass**/Fail

11-3 Review: **Pass**/Fail/NA

Overall Status: Recommend to **Pass**/Fail

Transfer This Jacket to:

STEPHEN SCHAILBE

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

February 11, 2016

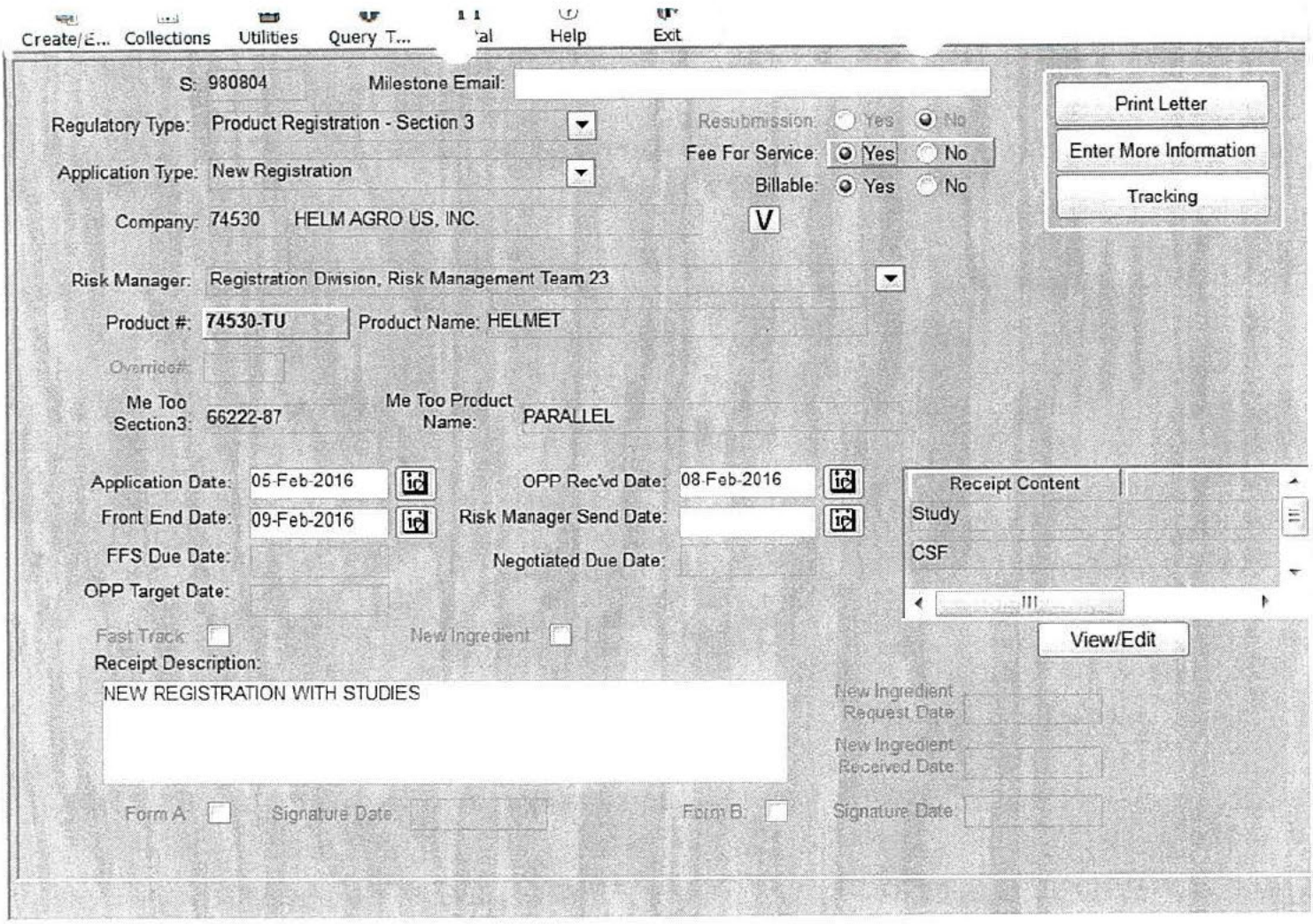
OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

CERES INTERNATIONAL LLC
HELM AGRO US, INC.
1087 HEARTSEASE DRIVE
WEST CHESTER, PA 19382

Report of Analysis for Compliance with PR Notice 11-03

Thank you for your submittal of 08-FEB-16. Our staff has completed a preliminary analysis of the material. The results are provided as follows:

Your submittal was found to be in full compliance with the standards for submission of data contained in PR Notice 11-03. A copy of your bibliography is enclosed, annotated with Master Record ID's (MRIDs) assigned to each document submitted. Please use these numbers in all future references to these documents. Thank you for your cooperation. If you have any questions concerning this data submission, please raise them with the cognizant Product Manager, to whom the data have been released.


Create/E... Collections Utilities Query T... Help Exit
S: 980804
Milestone Email:
Regulatory Type: Product Registration - Section 3
Application Type: New Registration
Company: 74530 HELM AGRO US, INC.
Resubmission: Yes No
Fee For Service: Yes No
Billable: Yes No
Print Letter
Enter More Information
Tracking
Risk Manager: Registration Division, Risk Management Team 23
Product #: 74530-TU
Product Name: HELMET
Override#:
Me Too Section3: 66222-87
Me Too Product Name: PARALLEL
Application Date: 05-Feb-2016
OPP Rec'vd Date: 08-Feb-2016
Front End Date: 09-Feb-2016
Risk Manager Send Date:
FFS Due Date:
Negotiated Due Date:
OPP Target Date:
Receipt Content
Study
CSF
Fast Track:
New Ingredient:
View/Edit
Receipt Description:
NEW REGISTRATION WITH STUDIES
New Ingredient Request Date:
New Ingredient Received Date:
Form A:
Signature Date:
Form B:
Signature Date:

Ceres International LLC

Via Courier Delivery
February 5, 2016

U.S. Environmental Protection Agency
Document Processing Desk (REGFEE)
Office of Pesticide Programs (7504P)
Room S-4900, One Potomac Yard
2777 South Crystal Drive
Arlington, VA 22202

Attention: Ms. Kathryn Montague
Registration Manager (PM – 23)

Subject: HELMET (EPA Reg. No.74530 - to be assigned)
Application of new product registration

HELM Agro US Inc. herewith submits an application for the new end-use product registration, HELMET, containing the active ingredient, Metolachlor TC (EPA File Symbol 74530-TE; OPP Decision D-511408). The composition of this product and proposed use directions are similar (see enclosed Master label) to those of the registered end-use formulation, Parallel Herbicide (EPA Reg. No. 66222-87). Therefore, this application is considered a "me-too" registration, which only requires data review of the enclosed Product Chemistry and cited Acute Toxicity studies. The application is considered "secondary" pending on the approval of Metolachlor TC (74530-TE).

HELMET contains all EPA approved formulation ingredients exempted from the requirement of tolerances. The Precautionary Labeling is based on the cited acute toxicity data (see Data Matrix) following EPA's Label Review Manual and 40 CFR Part 156.

The subject application for registration is supported by the enclosed information and administrative materials:

1. EPA Form 8570-1
   Executed "Application for Pesticide Registration".

2. Bibliography of Submitted Studies
   Copy of the Bibliography of Submitted Studies (Volumes 1 to 5). This document provides an index of study titles and references to EPA data requirements by OPPTS Guideline number.

3. Proposed Label
   Five copies of the proposed HELMET Master label.

4. Study Data
   Three copies of each study report (total of 5 volumes).

5. Confidential Statement of Formula
   One copy of the Confidential Statement of Formula (CSF).

6. Certification with Respect to Citation of Generic Data
   An executed EPA form 8570-34 with respect to citation of data.

7. Data Matrix (EPA form 8570-35)
   Data Matrix of all submitted data (including the generic data submitters) in support of the proposed registration (one copy for Agency Internal Use, and one copy for Public Use).

8. Confirmation of PRIA fee payment
   Copy of PRIA payment confirmation ($19,838, R333) is enclosed; Tracking ID: 74953990432. Since this application is considered a "secondary" application, the request for a Discretionary Refund of $14,537 ($19,838 paid, minus $5,048) should be approved as soon as the review of the pending application for Metolachlor TC (74530-TE) has been completed.

We appreciate your expeditious processing of this application for the subject product, and receipt of the stamped, approved label. If you need any additional information or assistance regarding this application, please do not hesitate to contact me at 610-793-3222 or at bertvolger@ceresinternational.com

Sincerely,

Bert Volger, Ph.D
Agent for
HELM Agro US, Inc.

Cc: Jan Stechmann - Helm

BIBLIOGRAPHY OF SUBMITTED STUDIES

Name and Address of Submitter: Helm Agro US, Inc.
401 E Jackson St., Suite 1400
Tampa, FL 33602

Product(s): HELMET
EPA Registration No: 74530-to be assigned

Purpose of Submission: Submission of data in support of the application for "me-too" registration of HELMET

Date of Submission: February 5, 2016

Volume Number	Study Title	Laboratory, ID Number	OPPTS Guideline Reference Number	EPA MRID Number (Reserved for EPA Use)
1 of 5	HELMET Product Identity and Composition (Group A Data) Summary of Physical and Chemical Properties (Group B data)	Ceres #160125	830.1550, 830.1600, 830.1650, 830.1670, 830.1700, 830.1750, 830.1800, 830.1900, 830.6302 through 830.7950	**49832701**
2 of 5	HELMET Metolachlor 935 EC: Enforcement Analytical Method for the Determination of Metolachlor by High Performance Liquid Chromatography	PSL # 41436 EAM	830.1800	**49832702**
3 of 5	HELMET Metolachlor 935 EC: Physical and Chemical Characteristics: Color, Physical State, Odor, Oxidation/Reduction, pH, and Density/Relative Density	PSL # 41437	830.6302, 830.6303, 830.6304, 830.6314, 830.7000, 830.7300	**49832703**
4 of 5	HELMET Metolachlor 935 EC: Physical and Chemical Characteristics: Boiling Point	PSL # 41438	830.7220	**49832704**

Volume Number	Study Title	Laboratory, ID Number	OPPTS Guideline Reference Number	EPA MRID Number (Reserved for EPA Use)
5 of 5	HELMET Metolachlor 935 EC: Physical and Chemical Characteristics: Viscosity	PSL # 42304	830.7100	**49832705**

PRIA 3 – 21 Day Content Screen Review Worksheet

(EPA/OPP Use Only)

September 2012

21 Day Screen Start Date: 2-8-16

Experts In-Processing Signature: B.B. Date 2-11-16 Fee Paid: Yes ✓

Division management contacted on issues No_____ Yes_____ Date_____

EPA Reg. Number: 74530 - TU	EPA Receipt Date: 2-8-16

	Items for Review	Yes	No	N/A*
1	**Application Form** (EPA Form 8570-1) signed & complete including package type	X		
2	**Confidential Statement of Formula** all boxes completed, form signed, and dated (EPA Form 8570-4)	X		
	a) All inerts, including fragrances, approved for the proposed uses (see Footnote A) — yes: X; no:			
3	**Certification with Respect to Citation of Data** (EPA Form 8570-34) completed and signed (N/A if 100% repack)	X		
	Certificate and data matrix consistent	X		
	If applicant is relying on data that are compensable, is the offer to pay statement included. (see Footnote B) — yes: ; no:			
	If applicable, is there a letter of Authorization for exclusive use only.			
4	**Formulator's Exemption Statement** (EPA Form 8570-27) completed and signed (N/A if source is unregistered or applicant owns the technical)			X
5	**Data Matrix** (EPA Form 8570-35) both internal and external copies (PR 98-5) completed and signed (N/A if 100% repack)	X		
	a) Selective Method (Fee category experts use) — yes: X; no:			
	b) Cite-All (Fee category experts use) — yes: ; no:			
	c) Applicant owns all data (Fee category experts use) — yes: ; no:			
6	**5 Copies of Label (Electronic labels on CD are encouraged and guidance is available)**	X		
7	**Is the data package consistent with PR Notice 86-5**	X		
8	**Notice of Filing included with petitions**			X

9	**If applicable for conventional applications, <u>reduced risk rationale</u>**			X
	<u>Required Data</u> and/or data waivers. See Footnote C.			
10	a) List study (or studies) not included with application			

Comments:

Documentation Pass or Fail
- All Required Forms Complete

Inerts: Pass or Fail
- Inert not found
- Submitter Contacted 7/11
- Corrected CSF Received
- Inerts Approved for Pre-Harvest Food Use

PRN 11-03: Pass or Fail
- MRID: 478327

SV 2/12/16

Overall Status: Pass or Fail

* N/A – Not Applicable

Footnotes

A. During the 21 day initial content review, all CSFs will be reviewed to determine whether all inerts listed, including fragrances, are approved for the proposed uses or have an application pending with the Agency. If an unapproved inert with no application pending with the Agency is identified, the applicant must either 1) resolve the inert issue by, for example, removing the inert, substituting it with an approved inert, submitting documentation that EPA approved the inert for the proposed pesticidal uses, correcting mistakes on the CSF, etc. or 2) provide the data to support OPP approval of the inert or 3) withdraw the application. Removing or substituting an inert ingredient will require a new CSF and may require submission of data. All information, forms, data and documentation resolving the inert issue must have been received by the Agency or the application withdrawn within the 21 day period, otherwise, the Agency will reject the application as described below.

To successfully complete this aspect of the 21 day initial content screen, applicants are **strongly encouraged** to verify that all inert ingredients have been approved for the application's uses or have an application pending with the Agency **even if a product is currently registered** by consulting the inert Web site and if the inert is not approved nor has an application pending with the Agency, to **obtain the necessary inert approval prior to submitting an application to register a pesticide product containing that inert ingredient.** Some inert ingredients are no longer approved for food uses or certain types of uses. The name and/or CAS number on a CSF must match the name and CAS number on this web site. Simple typographical errors in the name or CAS number have resulted in processing delays.

If an inert is not listed on the inert ingredient web site and the applicant believes that the inert has been approved, the applicant should contact the Inert Ingredient Assessment Branch (IIAB) at inertsbranch@epa.gov and resolve the issue. Copies of the correspondence with IIAB resolving the issue should accompany the application. All new inerts except PIP inerts are reviewed by IIAB. The IIAB should also be contacted for any questions on what supporting data needs to be submitted for and the Agency's inert review process. Questions on PIP inerts should be directed to the Chief of Microbial Pesticides Branch.

When a brand, trade, or proprietary name of an inert ingredient is listed on a CSF, additional information such as an alternate name of the inert, CAS number or other information must also be included to enable the Agency to determine if it has been approved. Each component of an inert mixture (including a fragrance) must be identified. In some cases, the supplier of the mixture or fragrance may need to provide this information to the Agency. Prior to the Agency's receipt of an application, applicants must arrange with a proprietary mixture or fragrance supplier to provide the component information to the Agency or promptly upon EPA's request. If the inert ingredients in a proprietary blend (including fragrances) cannot or are not identified or provided within the 21-day content review period, the Agency will reject the application.

During the 21 day content review, applicants should submit information to the individual identified by the Agency when the applicant is informed of an unapproved inert.

Unapproved Inerts Identified on CSFs

All applications except conventional new products and PIPs

Once an unapproved inert is identified on a CSF, the Agency will contact the applicant with the following options:

1. Correct the application by, for instance, correcting the inert's identity or CAS number, providing documentation that the inert has been approved, or removing the unapproved inert from the CSF or replacing it with one that is approved for the application's uses; or

2. Provide the required information necessary to identify an inert approval application that is pending with the Agency; or

3. Submit the information and data needed for the Agency to approve the unapproved inert. If this option is selected and implemented, the Agency may request an extension in the PRIA decision review timeframe to accommodate the inert review/approval process;

4. Withdraw the application (the Agency retains 25% of the full fee for the fee category estimated); or

If none of these options is selected and implemented by the applicant within the 21 day content review period, the Agency will reject the application and retain 25% of the full fee of the category identified.

Conventional New Product Applications

When the Registration Division identifies an unapproved inert on a CSF with an application for a new product that the applicant has not identified as requiring an inert approval (R300 or R301), it will contact the applicant with the following options:

1. Correct the application by, for instance, correcting the inert's identity or CAS number, providing documentation that the inert has been approved, or removing the unapproved inert from the CSF or replacing it with one that is approved for the application's uses; or

2. Submit the information and data needed for the Agency to approve the unapproved inert, including any required petition to establish or amend a tolerance or exemption from a tolerance. (This option may change the PRIA category for the application, which could require a longer decision review time and a larger fee. If additional fees are due, they must be received by the Agency within the 21 day content review period.)

3. Withdraw the application (the Agency retains 25% of the full fee for the fee category estimated); or

If none of the above options is selected and implemented during the 21-day content-review period, the Agency will reject the application and retain 25% of the appropriate fee for the new product-inert approval category.

PIP Applications

When the Biopesticide and Pollution Prevention Division identifies an unapproved inert on a PIP CSF and a request to approve the inert does not accompany the application, it will contact the applicant with the following options:

1. Correct the application by, for instance, correcting the spelling or name of the inert to that in 40 CFR 174, or providing documentation that the inert has been approved; or

2. Submit the information and data needed for the Agency to approve the unapproved inert. If an inert ingredient tolerance exemption petition is required, the petition must be received by the Agency and the B903 fee paid within the 21 day period. If this option is selected and implemented, the Agency will discuss harmonizing the timeframe for both actions.

3. Withdraw the application (the Agency retains 25% of the full fee for the fee category estimated); or

If none of the above options is selected and implemented during the 21 day content review period, the Agency will reject the application and retain 25% of the fee.

B. A policy on documentation of offers to pay is still being developed, however, for a me-too or fast track (similar/identical) new product, R300 or A530, an application without the necessary authorizations of offers to pay will be placed into either R301 or A531. The Agency recommends that authorizations of offers to pay be submitted with other PRIA applications to avoid delays in the Agency's decision.

C. Biopesticide applicants are advised to contact the Agency and discuss study waivers prior to submitting their application to the Agency. Documentation of such discussions should be submitted with the study waiver.

Varner, Stephanie

From: Bert Volger <bertvolger@ceresinternational.com>
Sent: Thursday, February 11, 2016 5:04 PM
To: Varner, Stephanie
Subject: RE: Submission to EPA: HELMET (EPA Reg. No. 74530-TU)
Attachments: 160211 HELMET (74530-xx) Basic CSF - revised -resubm.pdf

Hi Stephanie,

Sorry for the mistake/typo!

Attached you will find the corrected CSF. Please let me know if you have any further comments.

Thanks,
Bert

Ceres International LLC
1087 Heartsease Drive
West Chester, PA 19382
Ph: 610-793-3222

From: Varner, Stephanie [mailto:Varner.Stephanie@epa.gov]
Sent: Thursday, February 11, 2016 3:31 PM
To: Bert Volger <bertvolger@ceresinternational.com>
Subject: Submission to EPA: HELMET (EPA Reg. No. 74530-TU)

Dear Mr. Volger,

My name is Stephanie Varner, and I am a contractor with the EPA. I am contacting you in regards to your submissions in support of the product HELMET (EPA Reg. No. 74530-TU). We have found a deficiency with the submissions that will need to be addressed:

1. There was an issue with the submitted CSF. Please see the attached Inert Clearance Form for further explanation.

Best,

Stephanie Varner

Contractor, US EPA
2777 S. Crystral Drive, S-4813
Arlington, VA 22202
(703) 347-0240
Email: varner.stephanie@epa.gov

Please read instructions on reverse before completing form. Form Approved. OMB No. 2070-0060. Approval expires 05-31-98

EPA United States Environmental Protection Agency Washington, DC 20460

☒ Registration ☐ Amendment ☐ Other

OPP Identifier Number

Application for Pesticide - Section I

1. Company/Product Number	2. EPA Product Manager	3. Proposed Classification
74530-xx	Kathryn Montague	☒ None ☐ Restricted
4. Company/Product (Name) Helm Agro US, Inc. /HELMET	PM# PM 23	
5. Name and Address of Application *(Include ZIP Code)* Helm Agro US, Inc. 401 E Jackson St.,Suite 1400 Tampa, FL 33602 ✠ *Check if this is a new address*	6. Expedited Review. In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to: Parallel Herbicide (EPA Reg. No. 66222-87)	

Section - II

☐ Amendment - Explain below.

☐ Resubmission in response to Agency letter dated _____

☐ Notification - Explain below.

☐ Final printed labels in response to Agency letter dated _____

✠ "Me Too" Application.

☐ Explain below.

Explanation: Use additional page(s) if necessary. (For Section I and Section II.)

Application for a "me-too" end-use product registration containing the active ingredient, metolachlor, which is similar in composition and labeling to Parallel Herbicide (EPA Reg. No. 66222-87). The technical source of the active ingredient is the soon to be registered Metolachlor TC (EPA File No. 74530-TE; OPP Decision: D-511408). This application only requires reviews of the submitted and cited acute toxicity and product chemistry data (Non-fast track; Tracking Code R333; EPA decision review time of 10 months, fee = $19,838) Contact by EMAIL: bertvolger@ceresinternational.com

Section - III

1. Material This Product Will Be Packaged In:

Child-Resistant Packaging	Unit Packaging	Water Soluble Packaging	2. Type of Container
☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Metal ☐ Plastic ☐ Glass ☐ Paper ☐ Other (Specify) _____
***Certification must be submitted**	If "Yes", Unit Packaging wgt. / No. per container	If "Yes" Package wgt / No. per container	

3. Location of Net Contents Information	4. Size(s) Retail Container	5. Location of Label Directions
☐ Label ☐ Container		☐ On Label ☐ On Labeling accompanying product

6. Manner in Which Label is Affixed to Product ☐ Lithograph ☐ Paper glued ☐ Stenciled ☐ Other_____

Section - IV

1. Contact Point (*Complete items directly below for identification of individual to be contacted, if necessary, to process this application.*)

Name	Title	Telephone No. (Include Area Code)
Bert Volger	Agent for HELM Agro US, Inc.	Phone: (610) 793-3222 Fax: (610) 200-5576

Certification

I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

2. Signature	3. Title	6. Date Application Received
Bert Volger	Agent for Helm Agro US, Inc.	(Stamped)
4. Typed Name Bert Volger	5. Date February 5, 2016	

EPA Form 8570-1 (Rev. 8-94) Previous editions are obsolete.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

February 10, 2016

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

OPP Decision Number: D-513659
EPA File Symbol or Registration Number: 74530-TU
Product Name: HELMET
EPA Receipt Date: 08-Feb-2016
EPA Company Number: 74530
Company Name: HELM AGRO US, INC.

BERT VOLGER, PH.D.
CERES INTERNATIONAL LLC
HELM AGRO US, INC.
1087 HEARTSEASE DRIVE
WEST CHESTER, PA 19382-

SUBJECT: Receipt of Registration Application Subject to Registration Service Fee

Dear Registrant:

The Office of Pesticide Programs has received your application and certification of payment. If you submitted data with this application, the results of the PRN-2011-3 screen will be communicated separately. During the administrative screen, the Office of Pesticide Programs has determined that this Action is subject to a Pesticide Registration Service Fee as defined in the Pesticide Registration Improvement Act.

The Action has been identified as Action Code: R333

NEW PRODUCT;MUP OR END USE PRODUCT WITH UNREGISTERED SOURCE OF THE ACTIVE INGREDIENT;REQUIRES SCIENCE DATA REVIEW;NEW PHYSICAL FORM;CITE-ALL OR SELECTIVE DATA CITATION WHERE APPLICANT OWNS ALL REQUIRED DATA;

No additional payment is due at this time.

If you have any questions, please contact the Pesticide Registration Service Fee Ombudsman at (703) 308-9362.

Sincerely,
Teresa Downs
Front End Processing Staff
Information Technology & Resources Management Division

Fee for Service

{980804%~

This package includes the following

- ◉ New Registration
- ○ Amendment

☑ Studies? ☐ Fee Waiver?

☐ volpay % Reduction: ___

for Division

- ○ AD
- ○ BPPD
- ◉ RD

Risk Mgr. 23

Receipt No. S-	980804
EPA File Symbol/Reg. No.	74530-TU
Pin-Punch Date:	2/8/2016

☐ This item is NOT subject to FFS action.

Action Code:

Requested: R333

Granted: R333

Amount Due: $ 19,838

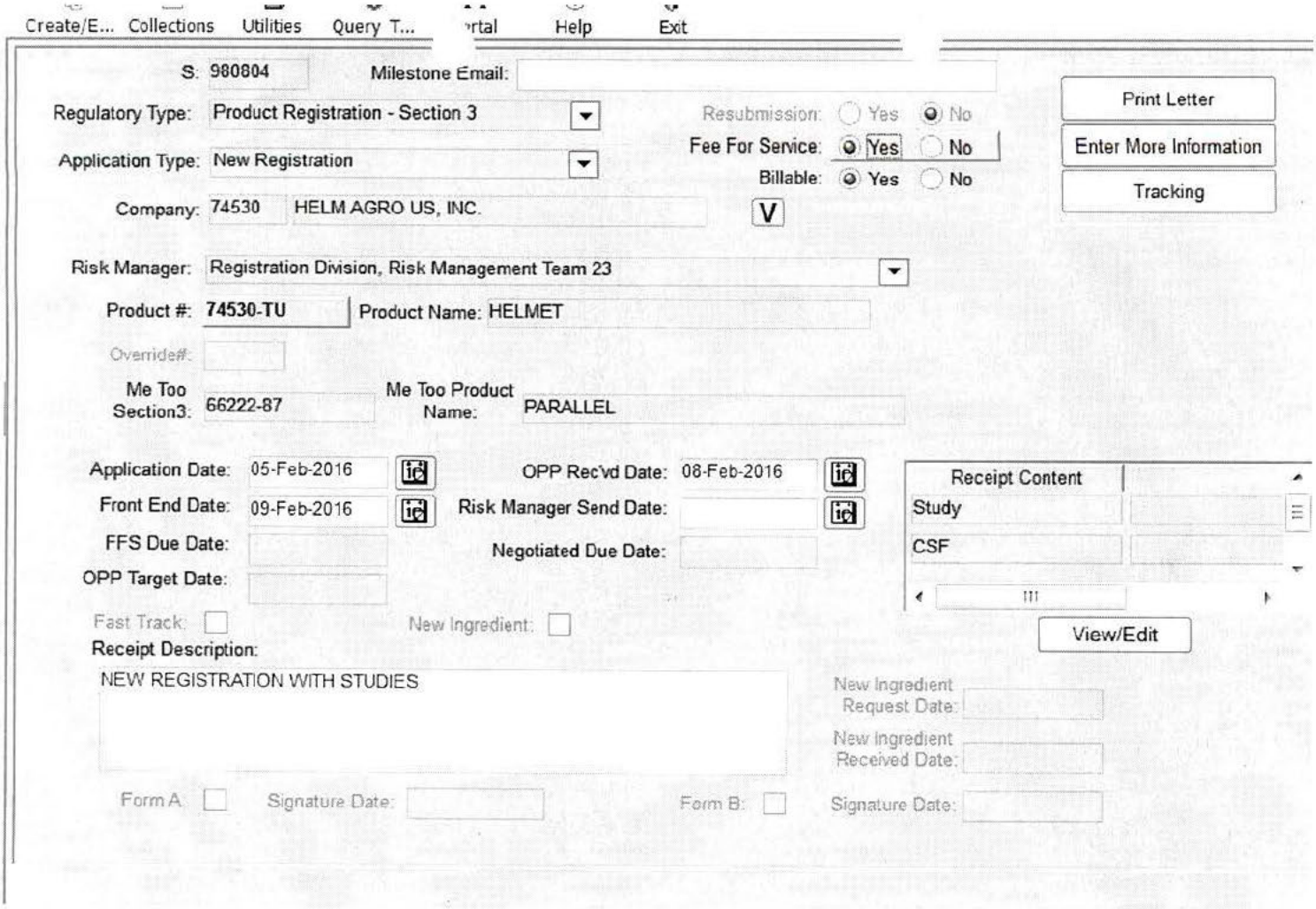
Parent/Child Decisions:

☑ Inert Cleared for Intended Use ☑ Uncleared Inert in Product

Reviewer: M Lewis Date: 2/10/16

Remarks:

TECH SOURCE IS PENDING REGISTRATION IN RD - GOES TO SIM CLINIC - CITING 66222-87


Create/E... Collections Utilities Query T... rtal Help Exit
S: 980804
Milestone Email:
Regulatory Type: Product Registration - Section 3
Resubmission: Yes No
Fee For Service: Yes No
Billable: Yes No
Application Type: New Registration
Company: 74530 HELM AGRO US, INC.
Print Letter
Enter More Information
Tracking
Risk Manager: Registration Division, Risk Management Team 23
Product #: 74530-TU
Product Name: HELMET
Override#:
Me Too Section3: 66222-87
Me Too Product Name: PARALLEL
Application Date: 05-Feb-2016
OPP Rec'vd Date: 08-Feb-2016
Front End Date: 09-Feb-2016
Risk Manager Send Date:
FFS Due Date:
Negotiated Due Date:
OPP Target Date:
Receipt Content
Study
CSF
Fast Track:
New Ingredient:
View/Edit
Receipt Description:
NEW REGISTRATION WITH STUDIES
New Ingredient Request Date:
New Ingredient Received Date:
Form A:
Signature Date:
Form B:
Signature Date:

Pay.gov

Receipt

Your payment is complete

Pay.gov Tracking ID: 25PPKJE9
Agency Tracking ID: 74953990432
Form Name: Pesticide Registration Improvement Act - Prepayment
Application Name: PRIA Service Fees

Payment Information

Payment Type: Debit or credit card
Payment Amount: $19,838.00
Transaction Date: 02/05/2016 12:15:30 PM EST
Payment Date: 02/05/2016
Registration Number:
Company Name: Helm Agro US Inc.
Company Number: 74530
Action Code: R333

Account Information

Card Holder Name: Bert Volger
Card Type: Visa
Card Number: **********9191

Email Confirmation Receipt

Confirmation Receipts have been emailed to:
bertvolger@ceresinternational.com

Ceres International LLC

Via Courier Delivery
February 5, 2016

U.S. Environmental Protection Agency
Document Processing Desk (REGFEE)
Office of Pesticide Programs (7504P)
Room S-4900, One Potomac Yard
2777 South Crystal Drive
Arlington, VA 22202

Attention: Ms. Kathryn Montague
Registration Manager (PM – 23)

Subject: HELMET (EPA Reg. No.74530 - to be assigned)
Application of new product registration

HELM Agro US Inc. herewith submits an application for the new end-use product registration, HELMET, containing the active ingredient, Metolachlor TC (EPA File Symbol 74530-TE; OPP Decision D-511408). The composition of this product and proposed use directions are similar (see enclosed Master label) to those of the registered end-use formulation, Parallel Herbicide (EPA Reg. No. 66222-87). Therefore, this application is considered a "me-too" registration, which only requires data review of the enclosed Product Chemistry and cited Acute Toxicity studies. The application is considered "secondary" pending on the approval of Metolachlor TC (74530-TE).

HELMET contains all EPA approved formulation ingredients exempted from the requirement of tolerances. The Precautionary Labeling is based on the cited acute toxicity data (see Data Matrix) following EPA's Label Review Manual and 40 CFR Part 156.

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2. Bibliography of Submitted Studies
   Copy of the Bibliography of Submitted Studies (Volumes 1 to 5). This document provides an index of study titles and references to EPA data requirements by OPPTS Guideline number.

3. Proposed Label
   Five copies of the proposed HELMET Master label.

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   Three copies of each study report (total of 5 volumes).

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   One copy of the Confidential Statement of Formula (CSF).

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We appreciate your expeditious processing of this application for the subject product, and receipt of the stamped, approved label. If you need any additional information or assistance regarding this application, please do not hesitate to contact me at 610-793-3222 or at bertvolger@ceresinternational.com

Sincerely,

Bert Volger, Ph.D
Agent for
HELM Agro US, Inc.

Cc: Jan Stechmann - Helm

Form Approved OMB No. 2070-0060

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
401 M Street, S.W.
WASHINGTON, D.C. 20460

Paperwork Reduction Act Notice: The public reporting burden for this collection of information is estimated to average 1.25 hours per response for registration and 0.25 hours per response for reregistration and special review activities, including time for reading the instructions and completing the necessary forms. Send comments regarding burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden to: Director, OPPE Information Management Division (2137), U.S. Environmental Protection Agency, 401 M Street, S.W., Washington, DC 20460. Do not send the completed form to this address.

Certification with Respect to Citation of Data

Applicant's/Registrant's Name, Address, and Telephone Number Helm Agro US, Inc., 4042 Park Oaks Blvd., Suite 330 Tampa, FL 33610	EPA Registration Number/File Symbol 74530 - xx
Active Ingredient(s) and/or representative test compound(s) Metolachlor	Date February 5, 2016
General Use Pattern(s) (list all those claimed for this product using 40 CFR Part 158) Terrestrial Food and Non-Crop Uses	Product Name HELMET

NOTE: If your product is a 100% repackaging of another purchased EPA-registered product labeled for all the same uses on your label, you do not need to submit this form. You must submit the Formulator's Exemption Statement (EPA Form 8570-27).

☐ I am responding to a Data-Call-In Notice, and have included with this form a list of companies sent offers of compensation (the Data Matrix form should be used for this purpose).

SECTION I: METHOD OF DATA SUPPORT (Check one method only)

☐ I am using the cite-all method of support, and have included with this form a list of companies sent offers of compensation (the Data Matrix form should be used for this purpose).	☑ I am using the selective method of support (or cite-all option under the selective method), and have included with this form a completed list of data requirements (the Data Matrix form must be used).

SECTION II: GENERAL OFFER TO PAY

[Required if using the cite-all method or when using the cite-all option under the selective method to satisfy one or more data requirements]

☑ I hereby offer and agree to pay compensation, to other persons, with regard to the approval of this application, to the extent required by FIFRA.

SECTION III: CERTIFICATION

I certify that this application for registration, this form for reregistration, or this Data-Call-In response is supported by all data submitted or cited in the application for registration, the form for reregistration, or the Data-Call-In response. In addition, if the cite-all option or cite-all option under the selective method is indicated in Section I, this application is supported by all data in the Agency's files that (1) concern the properties or effects of this product or an identical or substantially similar product, or one or more of the ingredients in this product; and (2) is a type of data that would be required to be submitted under the data requirements in effect on the date of approval of this application if the application sought the initial registration of a product of identical or similar composition and uses .

I certify that for each exclusive use study cited in support of this registration or reregistration, that I am the original data submitter or that I have obtained the written permission of the original data submitter to cite that study.

I certify that for each study cited in support of this registration or reregistration that is not an exclusive use study, either: (a) I am the original data submitter; (b) I have obtained the permission of the original data submitter to use the study in support of this application; (c) all periods of eligibility for compensation have expired for the study; (d) the study is in the public literature; or (e) I have notified in writing the company that submitted the study and have offered (I) to pay compensation to the extent required by sections 3(c)(1)(F) and/or 3(c)(2)(B) of FIFRA; and (ii) to commence negotiations to determine the amount and terms of compensation, if any, to be paid for the use of the study.

I certify that in all instances where an offer of compensation is required, copies of all offers to pay compensation and evidence of their delivery in accordance with sections 3(c)(1)(F) and/or 3(c)(2)(B) of FIFRA are available and will be submitted to the Agency upon request. Should I fail to produce such evidence to the Agency upon request, I understand that the Agency may initiate action to deny, cancel or suspend the registration of my product in conformity with FIFRA.

I certify that the statements I have made on this form and all attachments to it are true, accurate, and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

Signature	Date	Typed or Printed Name and Title
Bert Volger	2-5-2016	Bert Volger, Agent for Helm Agro US, Inc.

EPA Form 8570-34 (9-97) Electronic and Paper versions available. Submit only Paper version.

BIBLIOGRAPHY OF SUBMITTED STUDIES

Name and Address of Submitter: Helm Agro US, Inc.
401 E Jackson St., Suite 1400
Tampa, FL 33602

Product(s): HELMET
EPA Registration No: 74530-to be assigned

Purpose of Submission: Submission of data in support of the application for "me-too" registration of HELMET

Date of Submission: February 5, 2016

Volume Number	Study Title	Laboratory, ID Number	OPPTS Guideline Reference Number	EPA MRID Number (Reserved for EPA Use)
1 of 5	HELMET Product Identity and Composition (Group A Data) Summary of Physical and Chemical Properties (Group B data)	Ceres #160125	830.1550, 830.1600, 830.1650, 830.1670, 830.1700, 830.1750, 830.1800, 830.1900, 830.6302 through 830.7950	
2 of 5	HELMET Metolachlor 935 EC: Enforcement Analytical Method for the Determination of Metolachlor by High Performance Liquid Chromatography	PSL # 41436 EAM	830.1800	
3 of 5	HELMET Metolachlor 935 EC: Physical and Chemical Characteristics: Color, Physical State, Odor, Oxidation/Reduction, pH, and Density/Relative Density	PSL # 41437	830.6302, 830.6303, 830.6304, 830.6314, 830.7000, 830.7300	
4 of 5	HELMET Metolachlor 935 EC: Physical and Chemical Characteristics: Boiling Point	PSL # 41438	830.7220	

Volume Number	Study Title	Laboratory, ID Number	OPPTS Guideline Reference Number	EPA MRID Number (Reserved for EPA Use)
5 of 5	HELMET Metolachlor 935 EC: Physical and Chemical Characteristics: Viscosity	PSL # 42304	830.7100	

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DATA MATRIX

Date: February 5, 2016	EPA Reg. No./File Symbol: 74530-xx	Page 1 of 4
Applicant's/Registrant's Name & Address: HELM AGRO US, Inc., 401 E Jackson Street, Suite 1400 Tampa, FL 33602	Product: HELMET	
Ingredients: Metolachlor		

Guideline Reference Numbers, OPP/OPPTS	Guideline Study Name	MRID Number	Submitter	Status	Note
61-1/ 830.1550	Product Identity and Composition	N/A	Helm Agro US, Inc.	OWN	Submitted with subject application
61-2/ 830.1600 & 830.1650	Beginning Materials and Formulation Process	N/A	Helm Agro US, Inc.	OWN	Submitted with subject application
61-3/ 830.1670	Discussion of the Formation of Impurities	N/A	Helm Agro US, Inc.	OWN	Submitted with subject application
62-1/ 830.1700	Preliminary Analysis				Not required for end-use product
62-2/ 830.1750	Certified Limits	N/A	Helm Agro US, Inc.	OWN	See submitted CSF
62-3/ 830.1800	Enforcement Analytical Method	N/A	Helm Agro US, Inc.	OWN	Submitted with subject application
63-2/ 830.6302	Color	N/A	Helm Agro US, Inc.	OWN	Submitted with subject application
63-3/ 830.6303	Physical State	N/A	Helm Agro US, Inc.	OWN	Submitted with subject application
63-4/ 830.6304	Odor	N/A	Helm Agro US, Inc.	OWN	Submitted with subject application
63-5 830.7200	Melting Point				Not required for this end-use product
63-6/ 830.7220	Boiling Point	N/A	Helm Agro US, Inc.	OWN	Submitted with subject application
63-7/ 830.7300	Density	N/A	Helm Agro US, Inc.	OWN	Submitted with subject application
63-8/ 830.7840	Solubility				Not required for end-use product
63-9/ 830.7950	Vapor Pressure				Not required for end-use product
63-10/ 830.7370	Dissociation Constant				Not required for end-use product

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Applicant's/Registrant's Name & Address: HELM AGRO US, Inc., 401 E Jackson Street, Suite 1400 Tampa, FL 33602	Product: HELMET SPC	
Ingredient: Metolachlor		

Guideline Reference Numbers, OPP/OPPTS	Guideline Study Name	MRID Number	Submitter	Status	Note
63-11/ 830.7550	Octanol/Water Partition Coefficient				Not required for end-use product
63-12/ 830.7000	pH	N/A	Helm Agro US, Inc.	OWN	Submitted with subject application
63-13/ 830.6313	Stability				Not required for end-use product
63-14/ 830.6314	Oxidation/reduction: Chemical incompatibility	N/A	Helm Agro US, Inc.	OWN	Submitted with subject application
63.15/ 830.6315	Flammability				Not flammable; product contains no combustible liquids
63-16/ 830.6316	Explodability				Not explosive, product contains no combustible liquids; see chemical/ physical properties
63-17/ 830.6317	Storage Stability	N/A	Helm Agro US, Inc.	OWN	New study under way
63-18/ 830.7100	Viscosity	N/A	Helm Agro US, Inc.	OWN	Submitted with subject application
63-19 830.6319	Miscibility				Not required as this product is being diluted in water, not intended to be mixed and applied in petroleum solvents
63-20/ 830.6320	Corrosion Characteristics	N/A	Helm Agro US, Inc.	OWN	New study under way
63-21/ 830.6321	Dielectric breakdown voltage				Product is not for use in/on/around electrical equipment
81-1/ 870.1100	Acute Oral Toxicity - Rat	43912802	Syngenta	PAY	
81-2/ 870.1200	Acute Dermal Toxicity-Rabbit	43912803	Syngenta	PAY	
81-3/ 870.1300	Acute Inhalation Toxicity-Rat	43912804	Syngenta	PAY	

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Applicant's/Registrant's Name & Address: HELM AGRO US, Inc., 401 E Jackson Street, Suite 1400 Tampa, FL 33602	Product: HELMET SPC	

Ingredient: Metolachlor

Guideline Reference Numbers, OPP/OPPTS	Guideline Study Name	MRID Number	Submitter	Status	Note
81-4/ 870.2400	Primary Eye Irritation-Rabbit	43912805	Syngenta	PAY	
81-5/ 870.2500	Primary Dermal Irritation-Rabbit	43912806	Syngenta	PAY	
81-6/ 870.2600	Dermal Sensitization in Guinea Pigs	43912807	Syngenta	PAY	
	GENERIC DATA				
	Helm Agro US Inc. is making offers-to-pay to the following companies listed on EPA's Data Submitters list as of December 31, 2015	EPA Company No.	Submitter	Status	
	Cite-All under Selective Method utilized by Helm Agro US Inc.	100	Syngenta	PAY	
	Cite-All under Selective Method utilized by Helm Agro US Inc.	352	E.I. DuPont	PAY	
	Cite-All under Selective Method utilized by Helm Agro US Inc	11603	ADAMA Agan	PAY	
	Cite-All under Selective Method utilized by Helm Agro US Inc	11678	Adama Makhteshim Ltd.	PAY	
	Cite-All under Selective Method utilized by Helm Agro US Inc.	19713	Drexel Chemical Co.	PAY	
	Cite-All under Selective Method utilized by Helm Agro US Inc.	34704	Loveland Products, Inc.	PAY	
	Cite-All under Selective Method utilized by Helm Agro US Inc.	42750	Albaugh, LLC	PAY	
	Cite-All under Selective Method utilized by Helm Agro US Inc.	56077	Cedar Chemical Corp.	PAY	

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Applicant's/Registrant's Name & Address: HELM AGRO US, Inc., 401 E Jackson Street, Suite 1400 Tampa, FL 33602			Product: HELMET SPC		
Ingredient: Metolachlor					
		EPA Company No.	Submitter	Status	Note
	Cite-All under Selective Method utilized by Helm Agro US Inc.	60063	Sipcam Agro USA, Inc.	PAY	
	Cite-All under Selective Method utilized by Helm Agro US Inc.	66222	Makhteshim Agan of North America	PAY	
	Cite-All under Selective Method utilized by Helm Agro US Inc.	66607	Spray Drift Task Force	OWN	Member of SDTF
	Cite-All under Selective Method utilized by Helm Agro US Inc	67760	Cheminova, Inc.	PAY	
	Cite-All under Selective Method utilized by Helm Agro US Inc.	71754	Outdoor Residential Exposure Task Force	OWN	Member of ORETF
	Cite-All under Selective Method utilized by Helm Agro US Inc.	71755	Agricultural Reentry Task Force	OWN	Member of ARTF
	Cite-All under Selective Method utilized by Helm Agro US Inc.	75008	Metolachlor Task Force	PAY	
	Cite-All under Selective Method utilized by Helm Agro US Inc	75234	Agricultural Handler Exposure Task Force	OWN	Member of AHETF
	Cite-All under Selective Method utilized by Helm Agro US Inc.	84653	Generic Endangered Species Task Force	OWN	Member of GESTF
	Cite-All under Selective Method utilized by Helm Agro US Inc.	89168	Liberty Crop Protection, LLC	PAY	
Signature: Bert Volger			Name and Title: Bert Volger, Ph.D. Agent for HELM AGRO US Inc.		Date: February 5, 2016

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Ingredients: Metolachlor		

Guideline Reference Numbers, OPP/OPPTS	Guideline Study Name	MRID Number	Submitter	Status	Note
[redacted]	[redacted]	[redacted]	Helm Agro US, Inc.	OWN	Submitted with subject application
[redacted]	[redacted]	[redacted]	Helm Agro US, Inc.	OWN	Submitted with subject application
[redacted]	[redacted]	[redacted]	Helm Agro US, Inc.	OWN	Submitted with subject application
[redacted]	[redacted]				Not required for end-use product
[redacted]	[redacted]	[redacted]	Helm Agro US, Inc.	OWN	See submitted CSF
[redacted]	[redacted]	[redacted]	Helm Agro US, Inc.	OWN	Submitted with subject application
[redacted]	[redacted]	[redacted]	Helm Agro US, Inc.	OWN	Submitted with subject application
[redacted]	[redacted]	[redacted]	Helm Agro US, Inc.	OWN	Submitted with subject application
[redacted]	[redacted]	[redacted]	Helm Agro US, Inc.	OWN	Submitted with subject application
[redacted]	[redacted]				Not required for this end-use product
[redacted]	[redacted]	[redacted]	Helm Agro US, Inc.	OWN	Submitted with subject application
[redacted]	[redacted]	[redacted]	Helm Agro US, Inc.	OWN	Submitted with subject application
[redacted]	[redacted]				Not required for end-use product
[redacted]	[redacted]				Not required for end-use product
[redacted]	[redacted]				Not required for end-use product

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Ingredient: Metolachlor		

Guideline Reference Numbers, OPP/OPPTS	Guideline Study Name	MRID Number	Submitter	Status	Note
[redacted]	[redacted]				Not required for end-use product
[redacted]	[redacted]	[redacted]	Helm Agro US, Inc.	OWN	Submitted with subject application
[redacted]	[redacted]				Not required for end-use product
[redacted]	[redacted]	[redacted]	Helm Agro US, Inc.	OWN	Submitted with subject application
[redacted]	[redacted]				Not flammable; product contains no combustible liquids
[redacted]	[redacted]				Not explosive, product contains no combustible liquids; see chemical/ physical properties
[redacted]	[redacted]	[redacted]	Helm Agro US, Inc.	OWN	New study under way
[redacted]	[redacted]	[redacted]	Helm Agro US, Inc.	OWN	Submitted with subject application
[redacted]	[redacted]				Not required as this product is being diluted in water, not intended to be mixed and applied in petroleum solvents
[redacted]	[redacted]	[redacted]	Helm Agro US, Inc.	OWN	New study under way
[redacted]	[redacted]				Product is not for use in/on/around electrical equipment
[redacted]	[redacted]	[redacted]	Syngenta	PAY	
[redacted]	[redacted]	[redacted]	Syngenta	PAY	
[redacted]	[redacted]	[redacted]	Syngenta	PAY	

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Ingredient: Metolachlor					
Guideline Reference Numbers, OPP/OPPTS	Guideline Study Name	MRID Number	Submitter	Status	Note
[redacted]	[redacted]	[redacted]	Syngenta	PAY	
[redacted]	[redacted]	[redacted]	Syngenta	PAY	
[redacted]	[redacted]	[redacted]	Syngenta	PAY	
GENERIC DATA					
	Helm Agro US Inc. is making offers-to-pay to the following companies listed on EPA's Data Submitters list as of December 31, 2015	EPA Company No.	Submitter	Status	
	[redacted]	[redacted]	Syngenta	PAY	
	[redacted]	[redacted]	E.I. DuPont	PAY	
	[redacted]	[redacted]	ADAMA Agan	PAY	
	[redacted]	[redacted]	Adama Makhteshim Ltd.	PAY	
	[redacted]	[redacted]	Drexel Chemical Co.	PAY	
	[redacted]	[redacted]	Loveland Products, Inc.	PAY	
	[redacted]	[redacted]	Albaugh, LLC	PAY	
	[redacted]	[redacted]	Cedar Chemical Corp.	PAY	

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Ingredient: Metolachlor		

		EPA Company No.	Submitter	Status	Note
	[redacted]	[redacted]	Sipcam Agro USA, Inc.	PAY	
	[redacted]	[redacted]	Makhteshim Agan of North America	PAY	
	[redacted]	[redacted]	Spray Drift Task Force	OWN	Member of SDTF
	[redacted]	[redacted]	Cheminova, Inc.	PAY	
	[redacted]	[redacted]	Outdoor Residential Exposure Task Force	OWN	Member of ORETF
	[redacted]	[redacted]	Agricultural Reentry Task Force	OWN	Member of ARTF
	[redacted]	[redacted]	Metolachlor Task Force	PAY	
	[redacted]	[redacted]	Agricultural Handler Exposure Task Force	OWN	Member of AHETF
	[redacted]	[redacted]	Generic Endangered Species Task Force	OWN	Member of GESTF
	[redacted]	[redacted]	Liberty Crop Protection, LLC	PAY	

Signature: Bert Volger	Name and Title: Bert Volger, Ph.D. Agent for HELM AGRO US Inc.
	Date: February 5, 2016

HELMET

Herbicide for Weed Control in Corn, Cotton, Grain or Forage Sorghum, Peanuts, Pod Crops, Potatoes, Safflower and Soybeans

ACTIVE INGREDIENT: % BY WT.

Metolachlor: 2-chloro-N-(2-ethyl-6-methylphenyl)-N-(2-methoxy-1-methylethyl) acetamide	84.4%
INERT INGREDIENTS:	15.6%
TOTAL:	100.0%

HELMET contains 7.8 lbs. of active ingredient per gallon.

GROUP	15	HERBICIDE

EPA Reg. No. 74530-xx **EPA Est. No. _____**

Net Content:_____

KEEP OUT OF REACH OF CHILDREN

CAUTION

FIRST AID
IF INHALED: • Move person to fresh air. • If person is not breathing, call 911 or an ambulance; then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for treatment advice. **IF ON SKIN OR CLOTHING:** • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice. **IF IN EYES:** • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes; then continue rinsing eye. • Call a poison control center or doctor for treatment advice. **IF SWALLOWED:** • Call a poison control center or doctor immediately for treatment advice. • Have affected person sip a glass of water if able to swallow. • DO NOT induce vomiting unless told by a poison control center or doctor. • DO NOT give anything by mouth to an unconscious person.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For chemical emergency: Spill, leak, fire, exposure, or accident, call CHEMTREC 1-800-424-9300.

For additional precautionary, handling, and use statements, see inside of this booklet.

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Harmful if swallowed, or absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Avoid breathing vapor or spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical resistant to this product are listed below. If you want more options, follow the instructions for Category H on an EPA chemical resistance category selection chart.

Applicators and other handlers must wear:

- Coveralls over short-sleeved shirt and short pants
- Chemical-resistant gloves such as barrier laminate or Viton
- Chemical-resistant footwear plus socks
- Chemical-resistant headgear for overhead exposure, and
- Chemical-resistant apron when cleaning equipment, mixing or loading

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

ENGINEERING CONTROLS STATEMENT

Mixers and loaders supporting aerial applications are required to use closed systems. The closed system must be used in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4)]. When using the closed system, the mixers and loaders PPE requirements may be reduced or modified as specified in the WPS.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENVIRONMENTAL HAZARDS

DO NOT apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. DO NOT contaminate water when disposing of equipment wash waters or rinsate.

Ground Water Advisory:
This chemical is known to leach through soil into ground water under certain conditions as a result of agricultural use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

Surface Water Advisory:
Metolachlor can contaminate surface water through ground spray drift. Under some conditions, metolachlor may also have a high potential for runoff into surface water - primarily via dissolution in runoff water - for several months post-application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas over-laying extremely shallow ground water, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas over-laying tile drainage systems that drain to surface water.

Mixing/Loading Instructions:
Care must be taken when using this product to prevent back-siphoning into wells, spills, or improper disposal of excess pesticide, spray mixtures, or rinsates. Check valves or anti-siphoning devices must be used on all mixing and/or irrigation equipment.

This product may not be mixed or loaded within 50 ft. of perennial or intermittent streams and rivers, natural or impounded lakes, and reservoirs. This product may not be mixed/loaded or used within 50 ft. of all wells, including abandoned wells, drainage wells, and sink holes. Operations that involve mixing, loading, rinsing, or washing of this product into or from pesticide handling, or application equipment or containers within 50 ft. of any well are prohibited unless conducted on an impervious pad constructed to withstand the weight of the heaviest load that may be positioned on or moved across the pad. Such a pad shall be designed and maintained to contain any product spills or equipment leaks, container or equipment rinse or wash water, and rain water that may fall on the pad. Surface water shall not be allowed to either flow over or from the pad, which means the pad must be self-contained. The pad shall be sloped to facilitate material removal. An unroofed pad shall be of sufficient capacity to contain at a minimum 110% of the capacity of the largest pesticide container or application equipment on the pad. A pad that is covered by a roof of sufficient size to completely exclude precipitation from contact with the pad shall have a minimum containment capacity of 100% of the capacity of the largest pesticide container or application equipment on the pad. Containment capacities as described above shall be maintained at all times. The above-specified minimum containment capacities DO NOT apply to vehicles when delivering pesticide shipments to the mixing/loading site.

DIRECTIONS FOR USE

This product is intended for use in weed control in cotton, peanuts, pod crops, potatoes, safflower, sorghum (grain or forage), soybeans, and tomatoes.

IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABEL.

DO NOT apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

DO NOT enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours. Exception: If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- Coveralls
- Chemical-resistant gloves, such as barrier laminate or Viton
- Shoes plus socks

FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN POOR WEED CONTROL, CROP INJURY, OR ILLEGAL RESIDUES.

Note: Not for sale, use, or distribution in Nassau or Suffolk Counties, NY.

To avoid spray drift, DO NOT apply under windy conditions. Avoid spray overlap, as crop injury may result.

GENERAL INFORMATION

Observe all precautions and limitations on the labels of each product used in tank mixtures. Tank mixtures are permitted only in those states where the tank mix partner is registered. When tank mixtures are recommended, branded products acceptable for tank mixes are listed. Additionally, generic equivalents of these branded products may be used as long as the conditions listed below as well as those on the tank mix partner are followed.

When an adjuvant is to be used with this product, Helm Agro suggests the use of a Chemical Producers and Distributors Association (CPDA) certified adjuvant.

HELMET is a selective herbicide recommended as a preplant surface-applied, preplant incorporated, or preemergence treatment in water or fluid fertilizer for control of most annual grasses and certain broadleaf weeds in corn - all types, cotton, grain or forage sorghum, peanuts, pod crops, potatoes, safflower and soybeans. HELMET is also recommended as a postemergence treatment in selected crops.

Note: DO NOT use in nurseries, turf, or landscape plantings.

DO NOT apply under conditions which favor runoff or wind erosion of soil containing this product to non-target areas. To prevent off-site movement due to runoff or erosion:

1. Avoid treating powdery dry or light sand soils when conditions are favorable for wind erosion. Under these conditions, the soil surface should first be settled by rainfall or irrigation.
2. DO NOT apply to impervious substrates such as paved or highly compacted surfaces.
3. DO NOT use tail-water from the first flood or furrow irrigation of treated fields to treat non-target crops unless at least 1/2 inch of rainfall has occurred between application and the first irrigation.

Where directions specify a HELMET tank mixture with AAtrex formulations, other brands of atrazine may be used. Follow the rates, recommendations, and limitations on the AAtrex or respective atrazine product label, if other brands of atrazine are used.

Note: Certain states may have established rate limitations for atrazine within specific geographical areas. Consult your state lead pesticide control agency for additional information. It is a violation of this label to deviate from state use regulations.

When HELMET is incorporated, DO NOT exceed the depth of incorporation with supplemental tillage or efficacy will be reduced.

Dry weather following preemergence application of HELMET or a tank mixture may reduce effectiveness. Cultivate if weeds develop.

Where reference is made to weeds partially controlled, partial control can either mean erratic control from poor to good, or consistent control at a level below that generally considered acceptable for commercial weed control.

Precaution: Injury may occur to crops (other than corn) following the use of HELMET under abnormally high soil moisture conditions during early development of the crop.

RESISTANCE MANAGEMENT

HELMET is a Group 15 Herbicide containing the active ingredient metolachlor.

To prevent the risk of weeds developing resistance to HELMET, always apply this product at the recommended rates and in accordance with the use directions. DO NOT use less than recommended label rates alone or in tank mixtures. DO NOT use reduced rates of the tank mix partner.

The development of herbicide resistance is well understood, however it is not easily predicted. When herbicides that affect the same biological site of action are used repeatedly over several years to control the same weed species in the same field, naturally-occurring resistant biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that field. Adequate control of these resistant weed biotypes cannot be expected. If weed control is unsatisfactory, it may be necessary to retreat the problem area using a product affecting a different site of action.

Herbicides should be used in conjunction with the resistance management strategies in the area to better manage herbicide resistance through delaying the proliferation and possible dominance of herbicide resistant weed biotypes. It may be necessary to change cultural practices within and between crop seasons such as using a combination of tillage, retreatment, tank-mix partners and/or sequential herbicide applications that have a different site of action. Weed escapes that are allowed to go to seed will promote the spread of resistant biotypes. It is advisable to keep accurate records of pesticides applied to individual fields to help obtain information on the spread and dispersal of resistant biotypes. Consult your agricultural dealer, consultant, applicator, and/or appropriate state agricultural extension service representative for specific alternative cultural practices or herbicide recommendations available in your area.

If herbicide resistance should develop in the area to Group 15 herbicides, this product used alone may not continue to provide sufficient levels of weed control. If the reduced levels of control cannot be attributed to improper application techniques, improper use rates, improper application timing, unfavorable weather conditions or abnormally high weed pressure, a resistant strain of weeds may have developed. To reduce the potential for weed resistance use this product in a rotation program with other classes of chemistry and modes of action.

For optimum performance, scout fields carefully and begin applications when weeds are smaller rather than larger. If resistance is suspected, contact local or State agricultural advisors.

MIXING INSTRUCTIONS

HELMET Alone:

- Mix HELMET with water or fluid fertilizer and apply as a spray.
- Fill the spray tank 1/2 - 3/4 full with water or fluid fertilizer.
- Add the proper amount of HELMET.
- Add rest of the water or fluid fertilizer.
- Provide sufficient agitation during mixing and application to maintain a uniform emulsion.

Tank Mixtures:

- Fill the spray tank 1/4 full with water.
- Start agitation.
- Add 2,4-D, AAtrex, Banvel, Canopy, Caparol 4L, Command, Cotoran, Eptam, Lorox, Marksman, Princep, Prowl, Pursuit, AAtrex + Princep, Scepter, Sencor, Sonalan or Treflan, and allow it to become dispersed.
- Add HELMET.
- Then add Helmquat 3SL (paraquat), Landmaster BW, or Helosate Plus Advanced (glyphosate) if these products are being used.
- Finally add the rest of the water.
- For all tank mixtures, agitate during mixing and application to maintain a uniform suspension.

For tank mixtures with AAtrex, Banvel, Canopy, Caparol 4L, Command, Cotoran*, Eptam, Lorox, Marksman, Princep, Prowl *, Pursuit, AAtrex + Princep, Scepter, Sencor, Sonalan, or Treflan, fluid fertilizers may replace all or part of the water as carrier, except in the AAtrex postemergence and the Banvel postemergence tank mixes. For tank mixtures with AAtrex, see additional mixing instructions on the AAtrex label. For each mixture, check compatibility with fluid fertilizer, as described below, before mixing in spray tank. For directions on how to conduct a compatibility test, see **Appendix A**.

For all tank mixtures, agitate during mixing and application to maintain a uniform suspension.

*See **Special Mixing Instructions** for tank mixtures with Cotoran, and with AAtrex or Princep + Prowl under the appropriate tank mixture section.

1) SOIL TEXTURES AND HERBICIDE RATES

Where rates are based on coarse-, medium-, or fine-textured soils, it is understood that soil textural classes are generally categorized as follows:

Coarse	Medium	Fine
Sand	Loam	Sandy clay loam
Loamy sand	Silt loam	Sandy clay
Sandy loam	Silt	Silty clay loam
		Silty clay
		Clay loam
		Clay

Within rate ranges in the rate tables and elsewhere on this label, use the lower rate on soils relatively coarse-textured or low in organic matter; use the higher rate on soils relatively fine-textured or high in organic matter.

Note: HELMET may be applied preemergence alone or in tankmixes with partners specified on this label, following preplant incorporated herbicides when used according to their label recommendations, provided that such use is not prohibited on the respective labels.

Thoroughly clean sprayer or other application device before using. Dispose of cleaning solution in a responsible manner. DO NOT use a sprayer or applicator contaminated with any other materials, or crop damage or clogging of the application device may result.

2) APPLICATION PROCEDURES

APPLICATION TIMING

HELMET alone or in some tank mixtures with other labeled herbicides may be applied for weed control in certain crops at various times – preplant, preplant incorporated, preemergence and postemergence. Refer to the given crop section of the label to determine if application timings listed below are recommended.

a) **Preplant Surface-Applied:** For minimum-tillage or no-tillage systems only, HELMET alone and some HELMET tank mixtures may be applied up to 45 days before planting certain crops. For applications made 30 – 45 days before planting, use split applications with 2/3 the recommended broadcast rate for the crop and soil texture applied initially and the remaining 1/3 at planting. For applications made less than 30 days before planting, application may be made either as a split or a single application. Refer to individual crop to determine if early preplant surface application is recommended. When weeds are present at the time of treatment, apply in a tank mixture combination with a contact herbicide such as paraquat or glyphosate. Observe directions for use, precautions, and restrictions on the label of the contact herbicide. To the extent possible, DO NOT move treated soil out of the row or move untreated soil to the surface during planting, or weed control will be diminished.

b) **Preplant Incorporated:** Apply HELMET to soil surface and incorporate into the top 2 inches of soil within 14 days before planting, using a finishing disk, harrow, rolling cultivator, or similar implement capable of providing uniform 2-inch incorporation. When furrow irrigation will be used or when a period of dry weather is expected after application use a

preplant incorporated application. If crop will be planted on beds, apply and incorporate HELMET after bed formation, unless specified otherwise.

c) **Preemergence:** Apply HELMET during planting (behind the planter) or after planting but before weeds or crops emerge.

3) SPECIAL APPLICATION PROCEDURES

a) Preplant Incorporated: CA Only (Safflower, Pod Crops):
Broadcast HELMET to the soil surface and thoroughly incorporate with a disk or similar implement set to till 4-6 inches deep. Till the soil in 2 different directions (cross-till) for more thorough incorporation. Crops may be planted on flat surface or on beds. Caution should be used when forming the beds that only soil from the HELMET treated zone is used - untreated soil should not be brought to soil surface or weed control will be decreased. If the application is made to preformed beds, incorporate HELMET with tillage implement set to till 2-4 inches deep. Care should be taken during tilling to keep the treated/tilled soil on the beds. **Preemergence:** Apply HELMET after planting. Water with sprinkler or flood irrigation within 7-10 days if at least ½ - 1 inch of rainfall does not occur (1/2 inch on course textured soil and 1 inch on fine textured soil).

b) Fall Application (Only in IA, MN, ND, SD, WI, North of Route 20 in the state of NE, and North of Route 136 in the state of IL): DO NOT apply to frozen ground. Use on medium and fine soils with greater than 2.5% organic matter that will be planted to soybeans the next spring. Ground may be tilled before or after application. DO NOT exceed a 2- to 3-inch incorporation depth if tilled after treatment.
Note: If a spring application is made, the total rate of the fall plus spring applications must not exceed the maximum total rate for the specific crop or illegal residues may result.

c) Ground Application: Apply HELMET alone or in tank mixtures by ground equipment in a minimum of 10 gals. of spray mixture per acre unless otherwise specified.

Use sprayers that provide accurate and uniform application. For HELMET tank mixtures with wettable powder or dry flowable formulations, screens and strainers should be no finer than 50-mesh. Rinse sprayer thoroughly with clean water immediately after use.

Calculate the amount of herbicide needed for band treatment by the formula:

$$\frac{\text{Bandwidth in inches}}{\text{Row width in inches}} \times \text{broadcast rate per acre} = \text{amount needed per acre}$$

Note: For information on applying in lower volumes of carrier, see **Low Carrier Application** in Appendix B. For application by air or through center pivot systems, see Appendices C and D. Appendix C includes Aerial Drift Management and Aerial Drift Reduction Advisory sections. For information on impregnating dry fertilizer, see Appendix E.

For information on impregnating dry fertilizer, see **Appendix E**.

HELMET APPLIED ALONE

Weeds Controlled		
Barnyardgrass (watergrass)	foxtail millet	signalgrass (*Brachiaria*)
bristly foxtail	galinsoga	southwestern cupgrass
carpetweed	giant foxtail	tall waterhemp
common waterhemp	goosegrass	wild proso millet*
crabgrass	green foxtail	witchgrass
crowfootgrass	pigweed	woolly cupgrass*
Eastern black nightshade	prairie cupgrass	yellow foxtail
fall panicum	red rice	yellow nutsedge
Florida pusley	robust foxtails (purple, white)	
*For control of these weeds in corn only, refer to the **Corn - Woolly Cupgrass and Wild Proso Millet Control Program** section of this label.		
Weeds Partially Controlled*		
common purslane	sandbur	volunteer sorghum
eclipta	seedling johnsongrass	wild proso millet
Florida beggarweed**	shattercane	woolly cupgrass
hairy nightshade	Texas panicum***	

*See **Product Information** section. Control of these weeds can be erratic due partially to variable weather conditions.

Control may be improved by following these suggested procedures:

- In corn, use 2 – 2.67 pts./A or the soil surface-applied rates for Helmet alone in tank mixture, if allowed, when making preplant incorporated or preemergence applications.
- Till moist soil thoroughly to destroy germinating and emerged weeds. If HELMET is to be applied preplant incorporated, this tillage may be used to incorporate HELMET as long as uniform 2-inch incorporation is achieved as recommended under **Application Procedures**.
- Plant crop into moist soil immediately after tillage. If HELMET is to be used preemergence, apply at planting or immediately after planting.
- If possible, sprinkler irrigate within 2 days after application. Apply 1 /2 - 1 inch of water. Use lower water volume (1/2 inch) on coarse-textured soils and higher volume (1 inch) on fine-textured soils. Also, refer to the section on **Center Pivot Irrigation Application** for this method of applying HELMET.
- If irrigation is not possible and rain does not occur within 2 days after planting and application, weed control may be decreased. Under these conditions, a uniform, shallow cultivation (2 inches) is recommended as soon as weeds emerge.

**For partial control of this weed, use a minimum of 2 pts./A and apply preemergence.
***For partial control of this weed, use a minimum of 2 pts./A applied through a center pivot irrigation system.

4) Rotational Crops:
HELMET Alone:

- If crop treated with HELMET alone is lost, any labeled crop may be replanted immediately. However, DO NOT make a second broadcast application of HELMET. If original application was banded and the second crop is planted in the untreated row middles, a second banded treatment may be applied over untreated row middles. DO NOT make a second broadcast application over original banded area.
- Alfalfa may be planted 4 months following application.
- Barley, oats, rye, or wheat may be planted 4½ months following treatment.
- Tomatoes may be planted 6 months following application.
- Clover may be seeded 9 months following application.
- Any crop on this label, in addition to root crops, tobacco, barley, buckwheat, milo, oats, rice, rye, wheat, cabbage, or peppers, may be planted in the spring following treatment.
- All other rotational crops may be planted 12 months after a layby application.
- Following a lay-by treatment or multiple treatments applied the previous season, any crop on this label, in addition to tobacco, cabbage, or peppers, may be planted in the spring.
- DO NOT graze or feed forage or fodder from cotton to livestock.

HELMET Tank Mixtures:
For **Rotational Crops** restrictions for HELMET used in tank mixtures, refer to the statements/restrictions above for HELMET and to the respective product labels of any mixing partner(s) for additional statements/restrictions.
Important Notes: To avoid injury to rotational alfalfa or clover: (1) DO NOT apply more than 2 lbs. a.i. of metolachlor per acre (2 pts. of HELMET) preemergence (including preplant surface, preplant incorporated, postplant incorporated, etc.), and (2) DO NOT make lay-by or other postemergent applications of HELMET.

CROPS

CORN – Limited to Field Corn, Production Seed Corn, Silage Corn, Sweet Corn and Popcorn

HELMET ALONE
Apply Helmet either preplant surface, preplant incorporated, preemergence, or lay-by, using the appropriate rate specified below.

PREPLANT SURFACE-APPLIED:

Refer to instructions for use of HELMET alone under APPLICATION PROCEDURES.

1) **Fall Application – Apply based on the following dates for different geographic areas**
MN, ND, SD, WI and North of Route 30 in IA - after September 30
NE - North of Route 91 and South of Route 30 in IA - after October 15
IL - North of Route 136 - after October 31
In all areas, apply to crop stubble after harvest when the sustained soil temperature at a 4-inch depth is below 55°F and falling.

   In minimum-tillage or no-tillage systems - Soils >2.5% organic matter:
   Medium Texture - 1.67-2.0 pts./A
   Fine Texture – 2.0 pts./A

   DO NOT apply to frozen ground. A tillage operation may be made before the application. Application may be followed by a fall and/or a spring tillage. However, DO NOT exceed an incorporation depth greater than 2-3 inches. Minimize furrow and ridge formation in the tillage operations.
   Restrictions:
   - DO NOT apply to frozen ground.
   - If a spring application is made, the total rate of the fall plus spring applications must not exceed the maximum total rate for corn or illegal residues may result.

2) **Early Preplant applications in CO, IA, IL, IN, KS, KY, MN, MO, MT, ND, NE, SD, TN, WI and WY**
In minimum-tillage or no-tillage systems:
Medium and Fine Textured Soils - Apply 2/3 of the recommended rate of HELMET (1.67 pts./A on medium soils and 2.0 pts./A on fine soils) as a split treatment 30-45 days prior to planting. The remainder should be applied at planting. If application is to be made less than 30 days before planting it may be applied either a split or single treatment.
Coarse Textured Soils - Apply 1.33 pts./A not more than 2 weeks prior to planting.

3) **Preplant surface applications may be applied following the directions for use above on medium- and fine-textured soils with minimum-tillage or no-tillage systems in CT, DE, MA, MD, ME, MI, NH, NY, OH, PA, RI, VA, VT and WV.**
If the amount of rainfall results in unsatisfactory length of weed control following the earlier treatment, a postemergence application of an appropriately labeled broadleaf and/or grass weed herbicide may be used, i.e., AAtrex, Accent, Banvel, Basagran, Beacon, Bicep, bromoxynil (Brominal or Buctril), Exceed or 2,4-D. If the postemergence treatment includes the herbicide used preplant surface-applied, DO NOT exceed the total labeled rate for corn on a given soil texture. Observe all directions for use, precautions, and limitations on the label of the postemergent herbicide.

HELMET Preplant Incorporated or Preemergence in Corn:

Follow instructions for use of HELMET alone under Application Procedures.

Coarse soils
- < 3% OM - 1.0-1.33 pts./A
- > 3% OM - 1.33 pts./A

Medium soils
- 1.33-1.67 pt./A

Fine soils
- < 3% OM - 1.33-1.67 pts./A
- > 3% OM - 1.67-2.0 pts./A

HELMET POSTEMERENCE or LAY-BY in Corn:
For extended residual weed control in corn, a maximum rate of 2.0 pts./A of HELMET may be applied after corn emergence until the corn plants reach 40 inches in height, following any preplant surface-applied, preplant incorporated, or preemergence herbicide application, including HELMET. Applications to soil free of emerged weeds and directed towards the base of corn plants in excess of 5 inches tall. The total HELMET rate applied on corn during any one year must not exceed 4 pts./A, depending on soil texture.
Restriction - All applications to corn: To avoid possible illegal residues, DO NOT graze or feed forage from treated areas for 30 days following application.

PROBLEM WEED CONTROL DIRECTIONS:
Wild Proso Millet and Woolly Cupgrass Control Program:
For control of these species, use the following 3-step program:

1) Apply HELMET early preplant, preplant incorporated, or preemergence at 1.67 pts./A on medium soils and 2.0 pts./A on fine-textured soils, up to the maximum label rate. Lightly incorporate with a rotary hoe if rainfall does not occur within 5-7 days;
2) Follow first application with a postemergence tank mix of Beacon at 0.38 oz./A plus 1 qt. of crop oil concentrate plus 1 gal./A of 28% nitrogen, or the equivalent amount of ammonium sulfate, when grasses are 2-3 inches tall and the corn is at least 4 inches tall; and
3) Cultivate 14-21 days after the postemergence application.

Eclipta, Shattercane, Wild Proso Millet and Woolly Cupgrass – Partial Control:
For more consistent partial control of eclipta, shattercane, wild proso millet or woolly cupgrass, apply 2.0 - 2.5 pts./A as a single application or apply 1.0 - 1.33 pts./A of HELMET preplant incorporated, followed by 1.0 - 1.33 pts./A of HELMET preemergence. DO NOT apply more than a total of 2.55 pts./A. Make the preemergence application during or after planting, but before weeds and corn emerge. Apply the 1.33 pts./A rate of HELMET when a heavy infestation of eclipta, shattercane, wild proso millet or woolly cupgrass is expected. Follow with a shallow cultivation if needed to control any late emerging weeds.
Notes:

- In corn, HELMET may be used up to 2.75 pts./A as either a preplant surface, preplant incorporated, or preemergence treatment on soils having an organic matter content between 6% and 20% or up to 2.0 pts./A on any soil for extended residual control and where severe stands of problem weeds are expected.
- If annual weeds escape following a preplant surface, preplant incorporated, or preemergence treatment of HELMET, follow with a postemergence application of an appropriately labeled broadleaf and/or grass weed herbicide, i.e., AAtrex, Beacon, Bicep, Exceed, Accent, Banvel, Basagran, Brominal, Buctril, or 2,4-D. If the postemergence treatment includes the herbicide used in the earlier treatment, i.e., AAtrex, DO NOT exceed the total labeled rate for corn on a given soil texture.
- Brominal or Buctril may be applied postemergence alone or in tank mix combination with AAtrex. DO NOT exceed 1.2 lbs. a.i./A of AAtrex in tank mix combination with Brominal or Buctril postemergence. Refer to the AAtrex, Brominal, and Buctril labels for specific rates and precautions.

Restrictions:

- DO NOT apply more than the labeled application rate for a given soil texture per year, either as a single or split treatment, or illegal residues may result.
- DO NOT use HELMET on peat or muck soils.

HELMET COMBINATIONS FOR CORN

HELMET in any tank-mixture for Field corn, Popcorn and Sweet corn (except HELMET + Atrazine post-emergence and HELMET + Banvel post-emergence) may be applied in water or fluid fertilizer. Use only water in HELMET + Atrazine or HELMET + Banvel post-emergence tank-mixes.

Chart 1: HELMET Tank Mixtures for Corn - Additional Weeds Controlled and Special Instructions

	HELMET + AAtrex and/or Princep (Preplant Surface, PPI, PRE)	HELMET + AAtrex (Post)	HELMET + Banvel (Field Corn)	HELMET + AAtrex + Lorox	HELMET + AAtrex or Princep + Prowl	HELMET + Marksman	HELMET + Broadstrike + HELMET SPC	HELMET + Balance Pro
Special Mixing Instructions					1			
Comments	2, 3, 4, 5, 7, 8	2, 3, 4, 5		2, 3, 4, 5, 6	2, 3, 4, 5	7	7	2, 3, 7
Browntop panicum	C			C	C			C
Cocklebur	C	PC	PC	C	C	C	PC - C	PC - C
Common purslane	C			C	C	C	C	C
Hairy nightshade	C			C	C	C	C	C
Jimsonweed		PC	PC			C	PC - C	C
Kochia		C				C	C	C
Lambsquarters	C	C	C	C	C	C	C	C
Morningglory	C	PC	PC	C	C	C	PC - C	C
Mustard		C				C	C	C

Pigweed				C	C	C	C	C
Prickly sida		C				C	C	
Ragweed	C	C	C	C	C	PC - C	PC - C	C
Smartweed	C	C	C	C	C	C	C	C
Velvetleaf	C	C	PC	C	C	PC - C	C	PC - X
C = Control; PC = Partial Control; PC - C = Partial to Full control depending on: 1) ratio of products used, or 2) weed population								

Comments:

1. Special Mixing Instructions for HELMET + AAtrex or Princep and Prowl:
   a) Fill the spray tank 1/4 full with water or fluid fertilizer and start agitation.
   b) To aid compatibility, add a compatibility agent, such as Unite or X-77 at 4 pts./100 gals. of spray mixture.
   c) Then add the AAtrex or Princep and allow it to become dispersed.
   d) Then add HELMET and Prowl 4E.
   e) Add the rest of the water.
2. Although a single formulation for AAtrex or Princep is listed in the rate tables, other formulations may be substituted, using the following formula: 1 lb. of AAtrex Nine-O or Princep Caliber 90 = 1.8 pts. of AAtrex 4L or Princep 4L.
3. Although directions specify AAtrex formulations in tank mixture with HELMET, other brands of atrazine may be used. Follow the rates, recommendations, and limitations on the atrazine label.
4. See additional mixing instructions on the AAtrex label.
5. Precaution: DO NOT exceed a total of 2.5 lbs. a.i. of atrazine per acre per year. However, certain states may have established rate limitations for atrazine within specific geographical areas. Consult your state lead pesticide control agency for additional information. It is a violation of this label to deviate from state use regulations.
6. Other formulations of Lorox can be used: 1 lb. of Lorox DF = 1 pt. of Lorox L.
7. In minimum-tillage and no-tillage systems, mix with Paraquat dichloride for control of most emerged annual weeds and suppression of perennial weeds; or with glyphosate + 2,4-D (Landmaster) for suppression of emerged field bindweed and control or suppression of annual weeds; or with Helosate Plus Advanced (glyphosate) for control of most emerged annual and perennial weeds.
8. Refer to HELMET Combinations for Corn - Tank Mixture with AAtrex; or AAtrex + 2,4-D; or AAtrex + 2,4-D + Banvel for Minimum-Tillage or No-Tillage Systems sections for specific directions for 2,4-D or Banvel burndown combinations in minimum-tillage and no-tillage systems.

HELMET in any tankmix for corn may be applied in water or fluid fertilizer, except as noted.

Notes:

1) Refer to the section entitled Corn (All Types) - HELMET Alone, Problem Weed Control Directions, Note (3) for recommended sequential postemergence treatments if escape weeds develop.

2) In corn, HELMET may be used up to 2.0 pts./A in combinations on any soil for extended residual control and where severe stands of problem weeds are expected.

3) This Product may be tank-mixed with the herbicides listed on this label provided the specific product(s) tank-mixed is registered for use on Field corn, Popcorn and Sweet corn.

Restriction:

1) For all applications to corn, DO NOT graze or feed forage from treated areas for 30 days following application, or possible illegal residues may result.
2) FOR TANK-MIXTURES WITH ATRAZINE — If applying HELMET in tank-mixture with Atrazine, all restrictions and rate limitations on the Atrazine label must be followed, if more restrictive/protective than what is on this label.
3) DO NOT exceed a total of 2.5 pounds of Atrazine per acre per year when applying HELMET in tank-mixture with Atrazine.

Tank Mixture with AAtrex or Princep, or AAtrex + Princep – Preplant Surface, Preplant Incorporated, or Preemergence

In addition to the weeds controlled by HELMET alone, tank mixtures of HELMET + AAtrex or Princep, or HELMET + AAtrex + Princep, applied preplant surface, preplant incorporated, or preemergence, will control the following weeds: browntop panicum, cocklebur, common purslane, hairy nightshade, lambsquarters, morningglory, ragweed, smartweed, and velvetleaf.

Apply HELMET + AAtrex or Princep, or HELMET + AAtrex + Princep either preplant surface, preplant incorporated, or preemergence.

Preplant Surface-Applied:

Follow instructions for use of HELMET alone under Application Procedures and under application instructions for HELMET alone on corn.

Medium Soils:

Apply HELMET + AAtrex or Princep, or HELMET + AAtrex + Princep on medium soils (1.67 pts./A of HELMET + 3.2 - 4 pts./A of AAtrex 4L or Princep 4L, or AAtrex 4L + Princep 4L combined)

Fine Soils:

Apply HELMET + AAtrex or Princep, or HELMET + AAtrex + on fine soils (1.67 - 2.0 pts./A of HELMET + 4 - 5 pts./A of AAtrex 4L or Princep 4L, or AAtrex 4L + Princep 4L combined)

Apply above tank mixtures in minimum-tillage and no-tillage systems in CO, IA, IL, IN, KS, KY, MN, MO, MT, ND, NE, SD, TN, WI, and WY. Apply these tank mixtures as a split or single treatment in those states and as indicated in the HELMET Alone – Preplant Surface-Applied section of the label for corn.

Coarse soils:

Apply 1.33 pts./A of HELMET and 3.2 pts./A of AAtrex 4L or Princep 4L, or AAtrex 4L + Princep 4L combined.

Preplant Incorporated or Preemergence:
Follow instructions for use of HELMET alone under Application Procedures. Apply HELMET + AAtrex or Princep, or HELMET + AAtrex + Princep, using the appropriate rates from Table 1.
Note: DO NOT apply more than the labeled rate for a given soil texture per year, either as a split or single treatment, or illegal residues may result.

Eclipta, Shattercane, Wild Proso Millet and Woolly Cupgrass – Partial Control
For more consistent partial control of eclipta, shattercane, wild proso millet or woolly cupgrass where HELMET is applied in tank mixture or sequentially with other registered corn herbicides, apply 2.0 - 2.33 pts./A as a single application, or the following applications may be made:
1. Apply 1.0 - 1.33 pts./A of HELMET + 2 lbs. a.i./A of AAtrex or Princep preplant incorporated, followed by 1.0 - 1.33 pts./A of HELMET preemergence. Make the preemergence application during or after planting, but before emergence of weeds and corn.
2. Apply HELMET at 1.33 pts./A alone or in tank mix combination with up to 2 lbs. a.i./A of AAtrex or Princep, preplant incorporated. DO NOT exceed the total rate of triazine herbicide recommended for corn grown on a given soil texture. Follow with a post-directed application of Evik 80W at 2.5 lbs./A. Refer to the Evik 80W label for specific directions for the post-directed application.
3. Apply Eradicane or Sutan (or equivalent EPTC or butylate formulations) at labeled rates preplant incorporated, followed by a preemergence application of HELMET at 1.0 - 1.33 pts./A. DO NOT use Eradicane or Sutan on soils where rapid degradation has been shown to occur. Make the preemergence application during or after planting, but before weeds and corn emerge.

Precaution: When following the application regimens in numbers 1 to 3 above, a shallow cultivation may be needed after the preemergence or postemergence application to help control any late emerging shattercane or wild proso millet plants.

Table 1: HELMET + AAtrex or Princep, or HELMET + AAtrex + Princep - Preplant, Preplant Incorporated or Preemergence – Corn (All Types)

Soil Texture	BROADCAST RATES PER ACRE					
	LESS THAN 3% ORGANIC MATTER			3% ORGANIC MATTER OR GREATER		
	HELMET + AAtrex Nine-O* or Princep Caliber 90*		HELMET + AAtrex Nine-O** or Princep Caliber 90**	HELMET + AAtrex Nine-O* or Princep Caliber 90*		HELMET + AAtrex Nine-O** or Princep Caliber 90**
Coarse	0.85 - 1.0 pt. + 1.1 - 2.2 lbs.	OR	0.85 - 1.0 pt. + 0.6 - 1.1 lbs. + 0.6 - 1.1 lbs.	1.0 pt. + 1.3 - 2.2 lbs.	OR	1.0 pt. + 0.7 - 1.1 lbs. + 0.7 - 1.1 lbs.
Medium	1.0 - 1.33 pts. + 1.3 - 2.2 lbs.		1.0 - 1.33 pts. + 0.7 - 1.1 lbs. + 0.67- 1.1 lbs.	1.33 pts. + 1.8 - 2.2 lbs.		1.33 pts. + 0.9 - 1.1 lbs. + 0.9 - 1.1 lbs.

Fine	1.33 pts. + 1.8 - 2.2 lbs.		1.33 pts. + 0.9 - 1.1 lbs. + 0.9 - 1.1 lbs.	1.33 - 1.67 pts. + 1.8 - 2.2 lbs.***		1.33 - 1.67 pts. + 0.9 - 1.1 lbs.*** + 0.9 - 1.1 lbs.
Muck or Peat (soils with more than 20% organic matter)	DO NOT USE					

* Use Princep in preference to AAtrex when expecting heavy infestations of crabgrass or fall panicum. On soils having between 6% and 20% organic matter, HELMET may be used up to 2.33 pts./A in tank mix combination with 2.2 lbs./A of AAtrex Nine-O, or equivalent rates of AAtrex 4L. Refer to the AAtrex label for weeds controlled at this reduced rate.

** When using the tank mixture of HELMET + AAtrex Nine-O + Princep Caliber 90, use equal rates of each as shown when expecting heavy broadleaf weed infestations. When heavy infestations of crabgrass or fall panicum are expected, use a 1:2 ratio of AAtrex + Princep instead of the 1:1 ratio given in Table 1. (Example: Total AAtrex Nine-O + Princep Caliber 90 = 1.2 lbs./A, use 0.4 lb. of AAtrex + 0.8 lb. of Princep, respectively.) Refer to Comment No. 2 following Chart 1 for AAtrex 4L and Princep 4L conversions.

*** For cocklebur, velvetleaf and yellow nutsedge control on fine-textured soils above 3% organic matter, apply 2.25 lbs./A of AAtrex Nine-O, or equivalent rates of AAtrex 4L, or the same total amount of AAtrex + Princep with 1.33 - 1.67 pts./A of HELMET.

Tank Mixture with AAtrex – Postemergence

Weeds Controlled		
barnyardgrass (watergrass)	jimsonweed	purslane
crabgrass	kochia	ragweed
crowfootgrass	lambsquarters	smartweed
fall panicum	mustard	velvetleaf
giant foxtail	pigweed	yellow foxtail
green foxtail	prickly sida	
Weeds Partially Controlled		
cocklebur	morningglory	yellow nutsedge

Apply:

- 1.0 pt./A of HELMET + 1.3 lbs./A of AAtrex Nine-O* on coarse soils
- 1.33 pts./A of HELMET + 1.8 lbs./A of AAtrex Nine-O on medium soils
- 1.33 - 1.67 pts./A of HELMET + 1.8 - 2.2 lbs./A** of AAtrex Nine-O on fine soils

Apply this tank mixture before grass and broadleaf weeds pass the 2-leaf stage and before corn exceeds 5 inches in height. Application to weeds larger than the 2-leaf stage will generally result in unsatisfactory control.

Lay-by:

Apply to corn plants not more than 12 inches tall. Direct applications to the base of corn plants in excess of 5 inches. Applications to corn plants less than 5 inches tall may be made over the top. Occasionally, some corn leaf burn may result, but this should not affect later growth or yield. DO NOT apply this postemergence tank mixture in fluid fertilizer, or severe crop injury may occur.

* When using AAtrex 4L, use equivalent rates. One lb. of AAtrex Nine-O equals 1.8 pts. of AAtrex 4L.

** For improved control of cocklebur, morningglory, velvetleaf, and yellow nutsedge on fine-textured soils above 3% organic matter, apply 2.2 lbs./A of AAtrex Nine-O, or equivalent rate of AAtrex 4L, with 1.33 - 1.67 pts./A of HELMET. Tank mixtures of HELMET + AAtrex may be applied following use of any registered preplant surface-applied, preplant incorporated, or preemergence corn herbicide, including HELMET + AAtrex.

Note:

The total HELMET rate should not exceed 4 pts. or more than 2.5 lbs. a.i./A of AAtrex during any one-crop year, or illegal residues may result. Refer to the AAtrex label for geographic, soil-texture, and rotational restrictions.

Tank Mixture with Banvel

Preemergence:

Use this tank mixture only on field corn which is flat-planted (no furrows) in CO, IA, IL, IN, KS, MN, NE, OH, SD, and WI. In addition to the weeds controlled by HELMET alone, HELMET + Banvel, applied preemergence also controls or partially controls cocklebur*, jimsonweed*, lambsquarters, morningglory*, ragweed, smartweed and velvetleaf*.

*Partially controlled.

Apply HELMET + Banvel preemergence. Broadcast 1 pt./A of Banvel with 1.33 pts./A of HELMET on medium soils, or with 1.33 - 1.67 pts./A of HELMET on fine soils. DO NOT apply on coarse soils or on soils with less than 2.5% organic matter. Apply this tank mixture to the soil surface at planting or after planting, but before corn emerges. Plant corn at least 1.5 inches deep and apply behind planting equipment, avoiding incorporation by the planter wheel or other seed-covering device. DO NOT incorporate before corn emergence. If it is necessary to rotary hoe to break the soil crust, DO NOT disturb the soil more than 1/2 inch deep.

Precautions: (1) Avoid drift to sensitive non-target plants, such as soybeans, during application, or injury may occur. (2) DO NOT apply with aircraft.

Postemergence for Control of Pigweed (Mid-Atlantic states, including DE, MD, PA, VA, and WV):

Apply 1.0 - 1.5 pts. of HELMET + 0.5 - 1 pt./A of Banvel by ground equipment when pigweed plants are less than 3 inches tall but before field corn exceeds 5 inches in height in a minimum of 20 gals. of spray per acre. Use the lower rate on coarse-textured and low organic matter soils. Use the higher rate on fine-textured and high organic matter soils. Banvel SGF and Clarity may be used at equivalent lbs. of active ingredient per acre.

Precautions: (1) Avoid drift to sensitive non-target plants, such as soybeans, during application, or injury may occur. (2) DO NOT apply with aircraft.

Tank Mixture with AAtrex and Lorox for Control of Lambsquarters and Pigweed
For prolonged control of lambsquarters and pigweed in DE, MD, NJ, NY, PA, VA, and WV, HELMET may be applied preemergence in tank mix combination with AAtrex + Lorox. Apply HELMET and AAtrex according to the rates in Table 1 and Lorox according to the following rates.

SOIL TEXTURE	BROADCAST RATE PER ACRE
Sandy Loam (1 - 3% organic matter)	0.67 lb. Lorox
Sandy Loam (3 - 6% organic matter)	1.0 lb. Lorox
Medium- and fine-textured soils (1-6% organic matter)	1.0 lb. Lorox

Observe all directions for use, precautions, and limitations on the HELMET, AAtrex, and Lorox labels when applying these products in tank mix combinations.

Tank Mixture with AAtrex or Princep + Prowl for Prolonged Control of Lambsquarters and Pigweed in Field Corn Only (Northeast U.S., including IN, KY and MI and States East of These)
To prolonged control of lambsquarters and pigweed, in addition to broadening the spectrum of annual broadleaf and grass weeds control, tank mix and apply HELMET with AAtrex* or Princep + Prowl 4E after planting but before corn or weeds emerge. Refer to Table 1 of this label for rates of HELMET, AAtrex, or Princep to be applied. Apply Prowl 4E according to the following rates in Table 2.

*DO NOT apply HELMET in tank mix combination with AAtrex 80W + Prowl, as this combination is not compatible. Other AAtrex formulations may be used.

Mixing Instructions: See Comment No. 1 following Chart 1.

Table 2: Prowl 4E – Broadcast Rates Per Acre

SOIL TEXTURE	PERCENT ORGANIC MATTER IN SOIL		
	LESS THAN 1.5%	1.5 - 3%	Over 3%
Coarse	1.5 - 2.0 pts.	2.0 pts.	3.0 pts.
Medium	2.0 pts.	3.0 pts.	3.0 pts.
Fine	2.0 pts.	3.0 pts.	3.0 pts.

Apply by ground equipment in a minimum of 10 gals. of water or 20 gals. of liquid fertilizer. Apply by air in a minimum of 5 gals. of water.

Observe all directions for use, precautions, and limitations on the respective product labels when applying these products in tank mix combination. Refer to the Prowl 4E label for replanting instructions in the event of crop loss.

Tank Mixture with AAtrex, or Princep, AAtrex + Princep, with Helmquat 3SL (paraquat), Landmaster BW, or Helosate Plus Advanced (glyphosate) for Minimum-Tillage or No-Tillage Systems

In minimum-tillage or no-tillage systems where corn is planted directly into a cover crop, stale seedbed, established sod, or previous crop residues, the contact herbicides Helmquat 3SL (paraquat), Landmaster BW, or Helosate Plus Advanced (glyphosate) may be added to a tank mix of HELMET + AAtrex or Princep, or HELMET + AAtrex + Princep. See Comment No. 7 following Chart 1. The HELMET + AAtrex or
Princep, or HELMET + AAtrex + Princep portion of the tank mixture provides preemergence control of the weeds listed on this label in the tank mixture section for HELMET + AAtrex or Princep, or HELMET + AAtrex + Princep – Preplant Surface, Preplant Incorporated, or Preemergence.

See Comment No. 1 following Chart 1 for special mixing instructions.

Application:
Apply before, during, or after planting, but before the corn emerges, at the rates specified below. Add Helmquat 3SL (paraquat), Landmaster BW, or Helosate Plus Advanced (glyphosate) at the following broadcast rates:

Helmquat 3SL (paraquat): Apply as directed on the product label. This treatment will not control weeds taller than 6 inches.
Note: DO NOT apply combinations containing Helmquat 3SL (paraquat) in suspension-type liquid fertilizers, because the activity of paraquat will be reduced.

Landmaster BW:
27 - 54 oz./A depending on weed species and size. See the Landmaster BW label for weeds controlled, recommended rates for specific weeds, and other information concerning use.

Helosate Plus Advanced (glyphosate):
See the Helosate Plus Advanced (glyphosate) label for weeds controlled, recommended rates, and other use directions.

Apply in 20 - 60 gals. of water or fluid fertilizer per acre with ground equipment.

On coarse soils, apply 1.0 pt./A of HELMET with 1.3 lbs. of AAtrex Nine-O* or Princep Caliber 90*, or with 0.7 lb. of AAtrex Nine O** + 0.7 lb. of Princep Caliber 90**. On medium soils, apply 1.33 pts./A of HELMET with 1.8 lbs. of AAtrex Nine-O or Princep Caliber 90, or with 0.9 lb. of AAtrex Nine-O + 0.9 lb. of Princep Caliber 90. On fine soils***, apply 1.33 - 1.67 pts./A of HELMET with 1.8 - 2.2 lbs. of AAtrex Nine-O or Princep Caliber 90, or with 0.9 - 1.1 lbs. of AAtrex Nine-O + 0.9 - 1.1 lbs. of Princep Caliber 90.

* Use Princep in preference to AAtrex when heavy infestations of crabgrass or fall panicum are expected.
** When using the tank mixture of HELMET + AAtrex Nine-O + Princep Caliber 90, use equal rates of AAtrex and Princep as shown when heavy broadleaf weed infestations are expected. When heavy infestations of crabgrass or fall panicum are expected, use a 1:2 ratio of AAtrex + Princep instead of the 1:1 ratio given. (Example: Total AAtrex Nine-O + Princep Caliber 90 = 1.8 lbs./A, use 0.6 lb. of AAtrex + 1.2 lbs. of Princep, respectively.) Refer to Comment No. 2 following Chart 1 for AAtrex 4L and Princep 4L conversions.
*** For cocklebur, yellow nutsedge, and velvetleaf control on fine-textured soils above 3% organic matter, apply 2.25 lbs./A of AAtrex Nine-O, or equivalent rate of AAtrex 4L, or the same total amount of AAtrex + Princep, with 1.33 - 1.67 pts./A of HELMET.

Tank Mixture with AAtrex; or AAtrex + 2,4-D; or AAtrex + 2,4-D + Banvel for Minimum-Tillage or No-Tillage Systems
In minimum-tillage or no-tillage systems where corn is planted directly into a cover crop, stale seedbed, established sod, or previous crop residues, HELMET applied in combination with AAtrex will kill most emerged small annual weeds. Apply HELMET + AAtrex before, during, or after planting, but before corn emerges, according to the rates in Table 1.

Where heavy crop residues exist, add 0.8 - 1.6 pts./A of an appropriately labeled 3.8 lbs. a.i./gal. 2,4-D amine (such as Weedar 64, Weedar 64A or DMA-4 Herbicide) to the spray tank last and apply in a minimum of 25 gals. of carrier per acre.

As carriers, nitrogen solutions and complete liquid fertilizers applied before corn emergence enhance burndown of existing weeds, and therefore, are recommended instead of water. Add X-77 surfactant at 1.0 - 2.0 qts./100 gals. of diluted spray, or another appropriate surfactant at its recommended rate, or add crop oil concentrate plus 28% liquid nitrogen (or equivalent).
Apply before weeds exceed 3 inches in height. If alfalfa is present, add Banvel to the spray mixture at 0.33 - 0.5 pt./A and apply before alfalfa exceeds 6 inches in height.

For fields with existing sod grasses (e.g., bromegrass, orchardgrass, rye, or timothy), when existing weeds exceed 3 inches in height or when very dry conditions exist, add Helmquat 3SL (paraquat) at the rate of 2.5 pts./A in place of or in addition to 2,4-D, as indicated above. DO NOT apply Helmquat 3SL (paraquat) in suspension-type liquid fertilizer. Observe all directions for use, precautions, and limitations on the respective product labels when applying these products in tank mix combination.

Tank Mixture with Marksman in Conservation Tillage - Field and Silage Corn
In conservation tillage systems where corn is planted directly into a cover crop or previous crop residue, HELMET + Marksman will kill most emerged small annual weeds. Apply HELMET + Marksman before, during, or after planting, but before corn emergence on medium and fine soils with greater than 2.5% organic matter. For fields with existing vegetation exceeding 3

inches in height or when very dry conditions exist, add Helmquat 3SL (paraquat) at its standard rate. HELMET + Marksman may be applied postemergence to corn less than 3 inches tall and before weedy grasses exceed the 2-leaf stage. As carriers, nitrogen solutions and complete liquid fertilizers applied before corn emergence enhance burndown of existing weeds. DO NOT apply Helmquat 3SL (paraquat) in suspension-type liquid fertilizer or use on emerged corn.

Refer to the Marksman label and follow all directions, limitations, precautions, and information regarding application and use in corn.

Tank Mixture with Broadstrike + HELMET PCS

For preplant surface, preplant incorporated, or preemergence application where severe grass populations are expected on medium- or fine-textured soils with relatively high organic matter content, Broadstrike + HELMET PCS may be spiked with HELMET for optimum performance. Refer to the Broadstrike + HELMET PCS label for its use rate and the amount of metolachlor active ingredient it contains. HELMET may be added up to, but not to exceed, the maximum alone HELMET label rate for the soil classification. Refer to the respective labels and follow all directions, limitations, and restrictions for each product.

TANK-MIXTURE WITH BALANCE PRO — FIELD CORN ONLY

HELMET and Balance PRO have a complementary response and weed control profile which allows various tank-mix rate combinations to be considered. The addition of Balance PRO will improve the control of certain problem weeds including Texas panicum, Woolly cupgrass and Wild proso millet. HELMET improves both the duration and spectrum of annual grass and small-seeded broadleaf weed control, in particular Foxtails (Yellow foxtail), Witchgrass and Yellow nutsedge.

To reduce the risk of an adverse crop response, the Balance PRO label does not allow applications to Coarse-textured soils with less than 1.5% organic matter and warns about applications to all soils with less than 1.5% organic matter or with pH greater than 7.5, as well as applications made to areas in fields with clay knolls, eroded hillsides and exposed subsoil. HELMET has no adverse crop response warnings or use restrictions.

Listed below are compensating rate options for combinations of HELMET and Balance PRO, e.g., higher rates of HELMET are combined with lower rates of Balance PRO and vice versa. Select a rate option for HELMET plus Balance PRO by weighing the intensity of problem weed pressure (population presence and density) and your acceptance for risk of an adverse crop response. For example, where Texas panicum, Woolly cupgrass or Wild proso millet is a primary target weed, use a tank-mix combination with a higher Balance PRO rate for the given soil type.

Where your acceptance of an adverse crop response risk is low and/or a more general weed spectrum is targeted (especially Witchgrass, Yellow foxtail or Yellow nutsedge), use a tank-mix combination with a higher rate of HELMET for the given soil type.

Where a target weed is listed as controlled on both product labels, a tank-mix combination option including intermediate rates of both products may be used. Where a target weed is listed as controlled on only one product label, DO NOT apply a rate of that product below what is specified for that weed on the individual product label or unacceptable control may result. Follow all other directions for use, rate limitations, precautions, and restrictions on the label of HELMET and Balance PRO.

Coarse-textured soils: Where 1.5 or 1.88 fl. oz./A of Balance PRO is used, 1.0 -1.33 pts./A of HELMET may be applied. DO NOT use Balance PRO on coarse-textured soils with less than 1.5% organic matter.
Medium-textured soils: Where 1.5 fl. oz./A of Balance PRO is used, rates as low as 1.33 pts./A of HELMET may be applied. Where 1.88 or 2.25 fl. oz./A of Balance PRO is used, rates as low as 1.0 pt./A of HELMET may be applied. HELMET can be used in combinations with Balance PRO at rates up to 1.67 pts/A on medium-textured soils
Fine-textured soils: Where 1.5 fl. oz./A of Balance PRO is used, rates as low as 1.33 pts/A of HELMET may be applied if the soil organic matter is less than 3%. If the soil organic matter is 3% or greater, 1.67 pts/A of HELMET should be applied. Where 1.88 or 2.25 fl. oz./A of Balance PRO is used, rates as low as 1.33 pts/A of HELMET may be applied. Where 3.0 fl. oz./A or more of Balance PRO is used, rates as low as 1.0 pt./A of HELMET may be applied. HELMET can be used in combinations with Balance PRO at rates up to 2.0 pts./A on Fine-textured soils if the organic matter is 3% or greater

TANK-MIXTURES FOR POST-EMERGENCE SALVAGE WEED CONTROL IN FIELD CORN ONLY
For post-emergence control of weeds in specific types of field corn, the combinations listed below may be used. Full season weed control from early pre-plant, pre-plant incorporated or pre-emergence treatments can lead to maximum yield potential under competition-free conditions. However, if control of emerged weeds is needed, a post-emergence program listed below can be applied to provide residual control for the remainder of the season.
Restrictions:

1) Follow all label directions, instructions, precautions, and limitations for each product used.
2) DO NOT use fluid fertilizer with these mixtures or corn injury may occur.
3) For each tank-mixture with HELMET, apply only to the specific field corn type specified on the tank-mix product label.
4) In-row weed control may be reduced because of lack of coverage when applied to corn over 4 inches tall.

TANK-MIXTURE WITH LIBERTY HERBICIDE OR IGNITE® 280 SL
Post-emergence use in LibertyLink® Corn or Corn Warranted by Bayer CropScience as being tolerant to Glufosinate (e.g., Liberty Herbicide or Ignite ® 280 SL)

These tank-mixtures can be applied post-emergence to weeds and corn from seed designated as LibertyLink or corn warranted by Bayer CropScience as being tolerant to Glufosinate (e.g.,

Liberty Herbicide or Ignite 280 SL). Liberty Herbicide provides post-emergence control of a broad spectrum of grass and Broadleaf weeds and HELMET provides residual control of Grasses and certain Broadleaf weeds listed in the section **HELMET Alone.** Refer to **HELMET Preplant Incorporated or Preemergence in Corn** under the **CORN HELMET ALONE** section above. Use the minimum rate per soil texture and organic matter classification for season-long residual control from this tank-mix combination with Liberty Herbicide or Ignite 280 SL. Refer to the Liberty Herbicide or Ignite 280 SL label for the post-emergence application rates according to weed species and their maximum height at the time of post-emergence application. Where multiple weed species are present, use the highest specified rate to control the species and growth stages present.

Follow all applicable use directions, limitations, precautions and information regarding application to corn on HELMET and Liberty Herbicide or Ignite 280 SL labels. Where difficult species and/or severe weed populations are expected, use the maximum rate where rate ranges are listed.

TANK-MIXTURE WITH GLYPHOSATE

For Post-emergence Application to Glyphosate-Tolerant Corn (Roundup Ready® or Agrisure®GT)

The tank-mixture of HELMET + Glyphosate can be applied post-emergence to weeds and to corn designated as Glyphosate-tolerant. Application may be applied post-emergence to Glyphosate-tolerant corn from emergence until corn reaches 30 inches tall or the V8 stage (8 leaves with collars), whichever comes first. This mixture will provide post-emergence control of weed species on the Glyphosate label and residual control of weed species on this label. Use the minimum rate of HELMET post-emergence with Glyphosate in Glyphosate-tolerant corn as specified in **HELMET Preplant Incorporated or Preemergence in Corn** under the **CORN HELMET ALONE** section above according to soil texture and organic matter. Refer to the Glyphosate label and follow appropriate use directions, application procedures, precautions and limitations. Refer to the Glyphosate label for directions to control problem species. Where difficult species and/or severe weed populations are expected, use the maximum rate where rate ranges are listed.

TANK-MIXTURE WITH GLYPHOSATE + ATRAZINE

For Postemergence Application to Glyphosate-Tolerant Corn (Roundup Ready® or Agrisure®GT)

The tank-mixture of HELMET + Atrazine + Glyphosate can be applied post-emergence to weeds and to corn designated as Glyphosate-tolerant. Application may be applied post-emergence to Glyphosate-tolerant corn from emergence up to 12 inches in height. This mixture will provide post-emergence control of weed species on the Glyphosate label and residual control of weed species on this label + Atrazine label. Use the minimum rate post-emergence of HELMET + Atrazine with Glyphosate in Glyphosate-tolerant corn as specified in **HELMET Preplant Incorporated or Preemergence in Corn** under the **Tank-Mixture with Atrazine or Princep, or Atrazine + Pricep** section and Table 1 of this label according to soil texture and organic matter.

Follow all applicable use directions, limitations, precautions and information regarding application to corn on this label, Atrazine and Glyphosate labels for application to Glyphosate-tolerant corn. Where difficult species and/or severe weed populations are expected, use the maximum rate where rate ranges are listed.

COTTON

HELMET ALONE

1. Application:

Apply HELMET preemergence only in Area 1 (AR, LA, MS, TN, and Bootheel of MO) at the rate of 0.50-1.0 pt./A on sandy loams, 0.67-1.33 pts./A on medium soils, or 1.0-1.33 pts./A on fine soils.

Apply HELMET preplant incorporated or preemergence in Area 2 (NM, OK, and TX) at 1.0 pt./A on sandy loams, 1.0-1.33 pts./A on medium soils, or 1.33 pts./A on fine soils.

Apply HELMET postemergence to cotton and preemergence to weeds at 0.75-1.33 pts./A, according to the state rate limitations in the following **Postemergence** section.

DO NOT use on sands and loamy sand.

2. Preplant Incorporated - NM, OK, and TX Only: Apply to the soil and incorporate into the top inch of soil immediately before planting, at planting, or after planting but before crop or weeds emerge. Uniformly incorporate use a rolling cultivator or similar implement to a depth of 1 inch or less (DO NOT incorporate more than 1 inch deep). Use a preplant incorporated application if furrow irrigation is used or when a period of dry weather after application is expected. Where furrow irrigation is used, wet the top of the bed for best results. If the crop is to be planted on beds, apply and incorporate after bed formation. Plant cotton below the zone of incorporation; i.e., at least 1 inch on fine soils and 1.5 inches on coarse and medium soils. If incorporated prior to planting, use a planter that will result in a minimum of soil disturbance.

Note: For best yellow nutsedge control and seedling johnsongrass suppression, apply HELMET preplant incorporated at the maximum rate for the soil texture, whether applied alone or mixed with Caparol 4L.

3. Preemergence: Apply to the soil surface at planting or after planting but before weeds or crop emerge.

4. Postemergence: Apply HELMET broadcast over-the-top or directed to the soil surface, according to the rate and cotton height limitations listed below by state. HELMET will not control emerged weeds so apply before weed emergence or after clean cultivation to remove existing weeds. HELMET postemergence may be applied over any previous

registered herbicide treatment. In sprinkler-irrigated areas, sprinkler-irrigate after application with ½-1 inch of water (½ inch on coarse-textured soils to 1 inch on fine-textured soils) to incorporate HELMET. In furrow-irrigated areas, apply HELMET, incorporate with a rolling cultivator or similar implement that provides uniform shallow incorporation (2 inches or less), and then irrigate. In non-irrigated areas, if at least ½ inch of rainfall does not occur within 10 days after application, cultivate with a rolling cultivator or similar implement that provides uniform shallow incorporation of HELMET.

AL, FL, GA, NC, SC and VA: Apply HELMET at 1.0-1.33 pts./A when cotton is 3-6 inches tall.

AR, LA, MO, MS and TX: Apply HELMET at 0.75-1.33 pts./A when cotton is 3-12 inches tall.

AR (clay soils), AZ, CA, OK, NM and TX: Apply HELMET at 1.0-1.33 pts./A when cotton is 3-12 inches tall but before August 1.

5. Multiple Applications: Use a weed control program with multiple applications of HELMET when weed pressure is heavy, difficult to control species are expected, or if re-infestation may occur. Apply as a preplant incorporated or preemergence treatment and follow with an application postemergence to cotton before weeds emerge or after clean cultivation to remove existing weeds, since HELMET will not control emerged weeds. Cotton must be at least 3 inches tall at the postemergence timing. Apply HELMET postemergence over a previous preplant or preemergence HELMET application as shown in Table 3 .

Table 3: Multiple HELMET Applications to Cotton

State	Multiple HELMET Applications to Cotton		
	Preplant Incorporated or Preemergence pts./A	**+**	**Postemergence and Cotton Height pts./A**
AR, LA, MO, MS, TN	0.50 – 1.33 Preemergence Only	+	0.50 – 1.33 To 3 - 12" Cotton
NM, OK, TX	0.67 – 1.33	+	0.67 – 1.33 To 3 - 12" Cotton Before August 1
NC, VA	1.0 – 1.33 Preemergence Only	+	1.0 – 1.33 To 3 - 12" Cotton

In sprinkler-irrigated areas, apply HELMET and sprinkler irrigate after application with ½ -1 inch of water (½ inch on coarse-textured soils to 1 inch on fine-textured soils) to incorporate HELMET. In furrow-irrigated areas, apply HELMET, incorporate with a rolling cultivator or similar implement that provides uniform shallow incorporation (2 inches or less) - then irrigate. In non-irrigated areas, if at least ½ inch of rainfall does not occur within 10 days

after application, cultivate with a rolling cultivator or similar implement that provides uniform shallow incorporation of HELMET.

Note: For best yellow nutsedge control and seedling johnsongrass suppression, apply HELMET preplant incorporated, preemergence, or postemergence to cotton and preemergence to weeds at the maximum rate for the soil texture, whether applied alone or in combinations. DO NOT apply more than a total of 2.0 pts./A on coarse soils or 4 pts./A of HELMET on medium and fine soils during a growing season. HELMET treatments may be applied over previous registered herbicide treatments.

Restrictions:

- DO NOT apply HELMET on sand or loamy sand soils.
- DO NOT apply HELMET in areas where water is likely to "pond" over the bed.
- To avoid concentration of HELMET in the seed furrow, DO NOT make broadcast applications to cotton planted in furrows more than 2 inches deep. Band applications may be made to cotton planted in furrows deeper than 2 inches, but band width should not exceed the width of the bottom of the furrow.
- In furrow-planted cotton, to avoid concentration in the furrow and potential injury, DO NOT apply HELMET postemergence until after first "knifing" or cultivation to level soil surface.
- DO NOT apply over-the-top in fluid fertilizer or any other adjuvant, surfactant, oil, or other pesticide not recommended in the cotton section of this label or injury may occur.
- DO NOT apply on Taloka silt loam.
- DO NOT use in Gaines County, TX.
- DO NOT graze or feed forage or fodder from cotton to livestock or illegal residues may result.

HELMET Tank Mixtures

1) Tank Mixture with Caparol 4L

Tank mixtures of HELMET + Caparol 4L may be applied preplant incorporated or preemergence in water or fluid fertilizer. When fluid fertilizer is used as a carrier for HELMET, either alone or in combination with Caparol 4L, mix only the amount that will be sprayed in one operation. DO NOT allow these mixtures to stand without agitation. Only water may be used as a carrier for postemergence directed application.

In addition to those weeds controlled by HELMET alone, HELMET + Caparol 4L, applied preplant incorporated or preemergence, also controls the following weeds:

annual morningglory	junglerice	purslane
cocklebur*	lambsquarters	ragweed
coffeeweed*	malva	wild oats
groundcherry	mustard	
hairy night shade	prickly sida (teaweed)	

*shallow-germinating seedlings

As a postemergence directed application, HELMET provides residual control of weed species on its label and Caparol 4L provides postemergence control and residual control of weeds on its label. HELMET will not control emerged weeds.

Preplant Incorporated or Preemergence: Apply HELMET + Caparol 4L, either preplant incorporated or preemergence, using the appropriate rate from Table 4. Cotton should be planted below the zone of incorporation; i.e., at least 1.0 inch on fine soils and 1.5 inches on coarse and medium soils. If incorporated before planting, use a planter that will result in a minimum of soil disturbance.

Table 4: HELMET + Caparol 4L – Cotton (NM, OK, TX)

USE AREAS	SOIL TEXTURE	BROADCAST RATES PER ACRE	
		HELMET	CAPAROL 4L
ALL	Sand, loamy sand	DO NOT USE	
OK and Blacklands and Gulf Coast of TX	Loams	0.85 - 1.33 pts.	2.4 pts.
	Clays	1.33 pts.	4.8 pts.
Rio Grande Valley of TX	Loams	0.85 - 1.33 pts.	3.2 pts.
	Clays	1.33 pts.	4.8 pts.
NM, High Plains, Rolling Plains, Edwards Plateau of TX and Southwest TX	Sandy Loam	0.85 - 1.0 pt.	1.6 pts.
	Loams	0.85 - 1.33 pts.	2.4 pts.
	Sandy clay loams	1.33 pts.	2.4 pts.
	Other clay loams	1.33 pts.	3.2 pts.

Postemergence-Directed (AR, AZ, CA, LA, MO, MS, NM, OK, TN and TX):
Tank mix HELMET with Caparol 4L in water and apply postemergence directed in cotton for control of emerged weeds listed on the Caparol 4L label and residual preemergence control of weeds controlled by HELMET and Caparol 4L. Also, application may be made after cultivation for residual preemergence control. These treatments may be applied over previous registered treatments, including HELMET, provided the maximum label rate of any product is not exceeded. DO NOT apply over-the-top of cotton or injury may occur.

Apply HELMET + Caparol 4L tank mixture in a minimum of 20 gals. of spray volume per acre. Follow all directions, limitations, and precautions on the Caparol 4L label when Caparol is applied as a postemergence-directed application. Refer to the directions, limitations, and precautions for use of HELMET under the **Cotton-HELMET Alone-Postemergence** section.

Restrictions:

- DO NOT make broadcast applications of HELMET + Caparol 4L to cotton planted in furrows more than 2 inches deep in order to avoid concentration in the seed furrow. Band applications may be made to cotton planted in furrows deeper than 2 inches,

but to avoid crop injury band width should not exceed the width of the bottom of the furrow.

- DO NOT apply on sand or loamy sand soils.
- DO NOT apply HELMET in areas where water is likely to "pond" over the bed.
- DO NOT apply in cut areas of newly leveled fields, or in areas of excess salt.
- DO NOT apply to glandless cotton varieties.
- DO NOT apply on Taloka silt loam.
- DO NOT use in Gaines County, TX.
- DO NOT graze or feed forage or fodder from cotton to livestock or illegal residues may result.
- Refer to the Caparol 4L label for further instructions and limitations.

2) Tank Mixture with Cotoran DF

Tank mixture of HELMET + Cotoran DF may be applied preemergence for control of weeds controlled by HELMET alone and those listed on the Cotoran DF label. Additionally, this combination will control spotted spurge, hyssop spurge, nodding spurge, and prostrate spurge. Apply to soil surface at planting or soon after planting but before weeds or crop emerge, using the appropriate rates from Table 5. The tank mixture may be applied postemergence to cotton but preemergence to weeds, or it may be applied postemergence to both cotton and broadleaf weeds for control of weeds on the Cotoran label. Apply as a directed, semi-directed, or over-the-top spray. HELMET will not control emerged weeds but will provide preemergence control of species on its label.

Mixing Instructions: Incompatibility can occur when tank mixing HELMET and Cotoran DF. To help overcome this condition mix as follows:

- Fill the spray tank ¼ full with water or fluid fertilizer.
- Start agitation.
- Add Cotoran DF and allow it to become dispersed.
- Add X-77 at 0.5% volume/volume final spray (4 pts./100 gals.).
- Add the HELMET.
- Finish filling tank with the rest of the water or fluid fertilizer.
- Agitate during mixing and application to maintain a uniform suspension.
- DO NOT use fluid fertilizer as a carrier for postemergence applications.

Table 5: HELMET + Cotoran DF-Cotton

SOIL TEXTURE	BROADCAST RATES PER ACRE		
	HELMET		COTORAN DF***
	AREA 1*	AREA 2**	
Sand, loamy sand	DO NOT USE		
Sandy loam	0.50 - 1.0 pt.	0.85 - 1.0 pt.	1.2 lbs.
Loam, silt, silt loam	0.67 - 1.33 pts.	1.0 - 1.33 pts.	1.2 - 1.9 lbs.
Fine soil	1.0 - 1.33 pts.	1.33 pts	1.9 - 2.4 lbs.
*Area 1 = AR, LA, MO Bootheel, MS and TN			

**Area 2 = Eastern OK, Gulf Coast, Rio Grande Valley, and Eastern TX
***When using Cotoran 4L, use equivalent rates. Multiply lbs. of Cotoran DF by 1.7 to get pts. of Cotoran 4L.

Postemergence: This tank mixture may be applied postemergence to cotton but preemergence to weeds or postemergence to both cotton and weeds for control of weeds on the Cotoran label. Apply as a directed, semi-directed, or over-the-top spray (over-the-top applications may cause cotton injury). HELMET will not control emerged weeds but will provide preemergence control of species on its label. Apply when cotton is in the 3- to 12-inch stage. Where rate ranges are given for Cotoran DF, use the higher rate when applying postemergence to weeds that are 2 inches or less. These treatments may be applied over previous registered treatments, including HELMET, provided the maximum label rate of any product is not exceeded.

Restrictions:

- DO NOT apply HELMET + Cotoran on sand or loamy sand soils.
- DO NOT apply HELMET in areas where water is likely to "pond" over the bed.
- DO NOT make broadcast applications of HELMET + Cotoran to cotton planted in furrows more than 2 inches deep in order to avoid concentration in the seed furrow. Band applications may be made to cotton planted in furrows deeper than 2 inches, but to avoid crop injury band width should not exceed the width of the bottom of the furrow.
- The use of Cotoran following the use of a systemic insecticide at planting may result in crop injury.
- DO NOT use on Taloka silt loam, or crop injury may occur.
- DO NOT use in Gaines County, TX.
- DO NOT use fluid fertilizer as a carrier for postemergence applications.
- DO NOT graze or feed forage or fodder from cotton to livestock or illegal residues may result.
- Refer to the Cotoran labels for further instructions, precautions, and limitations.

3) Tank Mixture of HELMET or HELMET + Cotoran with Helmquat 3SL (paraquat) or Helosate Plus Advanced (glyphosate) **for Minimum-Tillage or No-Tillage Systems**

When cotton is planted into a cover crop, stale seedbed, or previous crop residues in minimum-tillage or no-tillage systems the contact herbicides - Helmquat 3SL (paraquat) or Helosate Plus Advanced (glyphosate) - may be added to a tank mix of either HELMET or HELMET + Cotoran. The Helmquat 3SL (paraquat) portion of the tank mixture controls most emerged weeds and suppresses many perennial weeds when used as directed. The Helosate Plus Advanced (glyphosate) portion of the tank mixture will control emerged annual and perennial weeds when applied as directed on the label. The HELMET and HELMET + Cotoran portion of the tank mixture will provide preemergence control of weeds listed on this label in the HELMET and HELMET + Cotoran sections, respectively.

Observe planting details, application information, geographical restrictions, and all other precautions and limitations on the label of each product used in tank mix. Refer to **Mixing**

Instructions under the **Tank Mixture with Cotoran DF** section to reduce the potential of tank mix compatibility issues.

Application: Apply before, during, or after planting, but before the cotton emerges, at the rates specified below. Apply HELMET at 0.85-1.0 pts./A on sandy loams, medium-, and fine-textured soils. Refer to Table 5 for the Cotoran DF rates.

Helmquat 3SL (paraquat): Apply as directed on the product label. This treatment will not control weeds taller than 6 inches.

Note: DO NOT apply combinations containing Helmquat 3SL (paraquat) in suspension-type liquid fertilizers, as the activity of paraquat will be reduced.

Helosate Plus Advanced (glyphosate)**:** See the Helosate Plus Advanced (glyphosate) label for weeds controlled, recommended rates, and other use directions.

Note: DO NOT apply HELMET + Cotoran 4L + Helosate Plus Advanced (glyphosate) in tank mixture because of compatibility problems.

Apply in 20-60 gals. of water or fluid fertilizer per acre with ground equipment.

Precautions:

- Crop injury may result if heavy rain occurs soon after application especially in poorly drained areas where water stands for several days, or where the seeding slit has not been properly closed.
- Refer to the Cotoran labels and the **Tank Mixture with Cotoran DF** section of this label for further instructions, precautions, and limitations.

Restrictions:

- DO NOT use in Gaines County, TX.

4) Tank Mixture with MSMA, MSMA + Caparol, or MSMA + Cotoran

HELMET may be applied as a postemergence directed tank mix with MSMA in water for control of emerged weeds listed on the MSMA product label and residual preemergence control of weeds controlled by HELMET. The addition of Caparol or Cotoran will add control of weed species on their respective labels.

Postemergence-Directed (AR, AZ, CA, LA, MO Bootheel, MS, NM, OK, TN and TX):

Apply HELMET + MSMA postemergence-directed to 3- to 12-inch cotton according to the directions, limitations, and precautions on the MSMA product label as well as all directions, limitations, and precautions for use of HELMET in the section for **Cotton-HELMET Alone-Postemergence**. DO NOT apply after first cotton bloom. These treatments may be applied over previous registered treatments, including HELMET, provided the maximum label rate of any product is not exceeded. Cotoran or Caparol may be added to the HELMET + MSMA tank mixture according to the respective label directions for application to 3- to 12-inch cotton. When these mixtures are used, follow the mixing instructions for HELMET + Caparol or Cotoran and then add the MSMA product.

DO NOT use HELMET in tank mix with premixes of MSMA plus herbicides other than those registered for use in tank mixture with HELMET on cotton.

PEANUTS

HELMET ALONE

Apply HELMET alone either preplant incorporated, postplant incorporated, or preemergence using the appropriate rate specified below.
Southeast - 1.0 - 1.33 pts./A (For partial control of Florida beggarweed - 1.33 - 2.0 pts./A)
NM, OK and TX - 0.85 - 1.33 pts./A

Note:

(1) HELMET alone may be applied as directed after any of the following preplant incorporated herbicides when used according to their label recommendations: Balan at 3 - 4 qts./A; Treflan E.C. at 1 pt./A; Vernam at 2.33 - 3 pts./A; Sonalan at 1.25- 3 pts./A; Pursuit at 0.25 pt./A; or Prowl at 1 - 2 pts./A.

Restrictions:

- DO NOT graze or feed peanut forage or fodder to livestock for 30 days following application.
- DO NOT apply within 90 days of harvest or illegal residues may result.

HELMET TANK MIXTURES

1) Tank Mixture with Balan L.C.

HELMET + Balan tank mixture applied preplant incorporated controls those weeds listed under **HELMET Applied Alone** and those weeds as listed on the Balan label.

Apply HELMET at 1.0-1.33 pts./A + Balan at 3-4 qts./A by ground application in a minimum of 10 gals. of spray volume per acre or by aerial application in a minimum of 5.0 gals. of spray volume per acre. Follow the recommended procedures for Balan on the Balan label for soil preparation and incorporation of this tank mix. Apply and incorporate HELMET + Balan up to 14 days prior to planting.
Note: Follow all restrictions and precautions on the Balan label.

2) Tank Mixture or Sequentially with Pursuit

A tank mixture or sequential treatment of HELMET and Pursuit controls all weeds controlled by HELMET alone and by Pursuit alone.
Refer to the **HELMET Applied Alone** section for weeds controlled by HELMET and to the Pursuit label for weeds controlled by Pursuit. Refer to the respective labels and follow all directions-application methods, timings, limitations, precautions, rates and restrictions for the use of these products on peanuts and follow the most restrictive. DO NOT exceed the label rate of either product. HELMET will not control emerged weeds.

3) Tank Mixture with Sonalan

A tank mixture of **HELMET + Sonalan** controls all weeds controlled by HELMET alone and by Sonalan alone. Refer to the **HELMET Applied Alone** section for weeds controlled by HELMET and to the Sonalan label for weeds controlled by Sonalan. Apply tank mixture preplant incorporated, using the appropriate rate from Table 6 . Follow recommended soil preparation procedures for Sonalan. Refer to the Peanut Sonalan/HELMET Tank Mixture label for incorporation specifications.

Table 6: HELMET + Sonalan-Peanuts

SOIL TEXTURE	BROADCAST RATES PER ACRE			
	Southeast		NM, OK, TX	
	HELMET	Sonalan	HELMET	Sonalan
Coarse	1.0 + 1.33 pts.	1.25 - 2.0 pts.	0.85 - 1.33 pts.	1.25 - 2.0 pts.
Medium	1.0 + 1.33 pts.	1.75 - 2.5 pts.	0.85 - 1.33 pts.	1.75 - 2.5 pts.
Fine	1.0 + 1.33 pts.	2.25 - 3.0 pts.	0.85 - 1.33 pts.	2.25 - 3.0 pts.

Note: Follow all use directions, limitations, precautions, and information regarding application to peanuts on the HELMET and Sonalan labels.

4) Tank Mixture with Prowl

A tank mixture of HELMET + Prowl applied preplant incorporated controls all weeds controlled by HELMET alone plus Texas panicum, field sandbur, johnsongrass from seed, lambsquarters, kochia, annual spurge, and other species on the Prowl label. Apply HELMET + Prowl by ground or by air within 14 days before planting. Incorporate into the top 1-2 inches of soil before planting and within 7 days of application. Use a finishing disk or similar implement set to provide uniform incorporation. If peanuts will be planted on beds, apply and incorporate after bed formation. Refer to the **Incorporation** instructions of the respective labels for additional directions. Apply HELMET + Prowl preplant incorporated using the appropriate rates from Table 7 .

Table 7: HELMET + Prowl-Peanuts

SOIL TEXTURE	BROADCAST RATES PER ACRE	
	NM, OK, TX	OTHER STATES
	HELMET + PROWL	HELMET + PROWL
Sand, loamy sand	0.85 + 1.0 - 1.5 pts.	1. 0 - 1.33 + 1.5 - 2.0 pts.
Sandy loam	0.85 - 1.0 + 1.0 - 1.5 pts.	1. 0 - 1.33 + 1.5 - 2.0 pts.
Fine soil	1.33 + 1.0 - 1.5 pts.	1.33 + 1.5 - 2.0 pts.

Note: Follow all use directions, limitations, precautions, and information regarding application to peanuts on the HELMET and Prowl labels.

5) Tank Mixture with Helmquat 3SL (paraquat)

Tank mixtures of HELMET + Helmquat 3SL (paraquat) applied at ground cracking or sequentially will control or suppress small (1-6 inch) emerged annual grass and broadleaf weeds and provide residual control of weed species listed in the **HELMET Applied Alone**

section of this label. Apply Helmquat 3SL (paraquat) plus the appropriate HELMET rate from the Peanuts - HELMET Alone section in a minimum spray volume of 20 gal/A with ground equipment. Refer to the respective labels and follow all directions, timings, limitations, precautions and restrictions for the use of these products on peanuts and follow the most restrictive.

6) Tank Mixture with Helmquat 3SL (paraquat) + Basagran

Adding Basagran to the HELMET + Helmquat 3SL (paraquat) mixture will result in improved control of several problem broadleaf weeds such as prickly sida, cocklebur, smartweed, and bristly starbur. HELMET + Helmquat 3SL (paraquat) + Basagran applied at ground cracking or sequentially will control or suppress small (1-6 inch) emerged annual grass and broadleaf weeds and provide residual control of weed species listed in the **HELMET Applied Alone** section of this label. Apply Basagran + Helmquat 3SL (paraquat) with the appropriate **HELMET** rate from the Peanuts – **HELMET** Alone section in a minimum spray volume of 20 gal/A with ground equipment. Refer to the respective labels and follow all directions, timings, limitations, precautions and restrictions for the use of these products on peanuts and follow the most restrictive.

7) Tank Mixture with Helmquat 3SL (paraquat) + Butyrac 200 or Butoxone 200

Adding Butyrac 200 or Butoxone 200 to the HELMET + **Helmquat 3SL (paraquat)** mixture will result in improved control of such problem broadleaf weeds as sicklepod, morningglory, and cocklebur. HELMET + **Helmquat 3SL (paraquat)** + Butyrac 200 or Butoxone 200 applied at ground cracking or sequentially will control or suppress small (1-6 inch) emerged annual grass and broadleaf weeds and provide residual control of weed species listed in the **HELMET Applied Alone** section of this label. Apply Helmquat 3SL (paraquat) + Butyrac 200 or Butoxone 200 with the appropriate **HELMET** rate from the Peanuts – **HELMET** Alone section in a minimum spray volume of 20 gal/A with ground equipment. Refer to the respective labels and follow all directions, timings, limitations, precautions and restrictions for the use of these products on peanuts and follow the most restrictive.

8) TANK MIXTURE WITH BASAGRAN

HELMET + Basagran applied at ground cracking or sequentially will control species on the Basagran label and provide residual control of species listed in the **HELMET Applied Alone** section of this label. Apply 1-2 pts./A of Basagran in 20 gals./A, depending on weed species and stage of growth as specified on the Basagran label, with the appropriate HELMET rate from the **Peanuts-HELMET Alone** section. A follow-up (2^{nd}) Basagran application may be made in all peanut growing areas if needed. Refer to the respective labels and follow all directions, timings, limitations, precautions and restrictions for the use of these products on peanuts follow the most restrictive.

9) Tank Mixture or Sequentially with Basagran + Butyrac 200 or Butoxone 200

HELMET + Basagran + Butyrac 200 or Butoxone 200 applied at ground cracking or sequentially will control species on the Basagran label and on the Butyrac or Butoxone

labels, especially morningglories. Apply 1.5-2 pts./A of Basagran + 8 fl. oz./A of Butyrac 200 or Butoxone 200 in 20 gals./A, depending on weed species and stage of growth as specified on the Basagran label, with the appropriate HELMET rate from the **Peanuts-HELMET Alone** section. A follow-up (2^{nd}) Basagran + Butyrac 200 or Butoxone 200 application may be made in all peanut growing areas, if needed. Refer to the respective labels and follow all directions, timings, limitations, precautions and restrictions for the use of these products on peanuts follow the most restrictive.

10) Tank Mixture or Sequentially with Storm
Apply HELMET according to the directions for HELMET Alone and follow with a postemergence treatment of Storm, as specified on its label for the control of weeds listed on the HELMET label and on the Storm label. HELMET will not control emerged weeds. Refer to the respective labels and follow all directions, timings, limitations, precautions and restrictions for the use of these products on peanuts and follow the most restrictive.

MULTIPLE APPLICATIONS
Where weed pressure is heavy or where species difficult to control are expected, HELMET is most effective when used as follows:

Southeast Only (AL, FL, GA, NC, SC, VA)
Preplant Incorporated:
Apply HELMET preplant incorporated as directed under Peanuts – HELMET Alone or apply HELMET + Balan preplant incorporated as directed previously in this section. Refer to the respective section for weeds controlled.
OR
Preemergence to before "ground cracking":
Apply HELMET any time from preemergence to before "ground cracking" at 1.0-2.0 pts./A for extended control of weeds not yet emerged. DO NOT use HELMET after peanut emergence. If peanuts have emerged, use HELMET SPC according to its label: **Peanuts – Combinations – Multiple Applications**.

Follow the PPI or PRE application by:

Lay-by: DO NOT use HELMET. Apply HELMET SPC at lay-by as directed under the Peanuts – Alone section of the HELMET SPC label.
Restrictions:

- DO NOT apply more than the equivalent of 2.67 lbs. of active ingredient of HELMET per acre during any one year, or illegal residues may result. If HELMET SPC is used as a sequential treatment, the lbs. of active ingredient (1.0 pt. = 0.95 lb.) plus the lbs. of active ingredient of HELMET should not exceed 2.67 lbs. DO NOT use HELMET after peanuts have emerged.
- DO NOT graze or feed peanut forage or fodder to livestock for 30 days following application.

- DO NOT apply within 90 days of harvest, or illegal residues may result.

Southwest Only (NM, OK, TX)
1st Application:
Apply HELMET preplant incorporated or preemergence to before "ground cracking" as directed under Peanuts – HELMET Alone or apply HELMET + Balan preplant incorporated as directed previously in this section. DO NOT use HELMET after peanut emergence. If peanuts have emerged, use HELMET SPC according to its label.
2nd Application:
DO NOT use HELMET. Apply HELMET SPC at lay-by as directed under the Peanuts – Alone Section of the HELMET SPC label. Use only when late germinating weeds are expected to be a problem. Refer to the product Applied Alone section for a list of weeds controlled.
Restrictions:

- DO NOT apply more than the equivalent of 2.67 lbs. of active ingredient of HELMET per acre during any one year, or illegal residues may result. If HELMET SPC is used as a sequential treatment, the lbs. of active ingredient (1.0 pt. = 0.95 lb.) plus the lbs. of active ingredient of HELMET should not exceed 2.67 lbs. DO NOT use HELMET after peanuts have emerged.
- DO NOT graze or feed peanut forage or fodder to livestock for 30 days following application.
- DO NOT apply within 90 days of harvest, or illegal residues may result.

POD CROPS

Pod crops - Beans, Peas and Lentils including garbanzo, great northern beans, kidney beans, lima beans, mung beans, navy beans, peas (English*; southern peas, such as blackeye, pinkeye, crowder, etc.), pinto beans, snap beans (green, wax, string), lentils, and lupines (sweet, white, white sweet, and grain).
* Use only preemergence applications on English peas. DO NOT use on English peas in northeastern U.S. or injury may occur. If soils are cold and wet during pea germination and emergence, the use of HELMET may delay maturity and/or reduce yields.

HELMET ALONE
Apply HELMET, either preplant incorporated or preemergence, using the appropriate rate specified below.
Fall Application:
• Apply after September 30 in ND, SD, MN, WI, and north of Route 30 in IA.
• Apply after October 15 north of Route 91 in NE and south of Route 30 in IA.
• Apply after October 31 north of Route 136 in IL.
In all locations, apply after harvest to crop stubble when the sustained soil temperature at a 4-inch depth is less than 55°F and falling.

HELMET Fall Use Rates in Pod Crops:
Minimum-tillage or no-tillage systems – OM > 2.5%
- 1.67-2.0 pts./A on medium-textured
- 2.0 pts./A on fine-textured soils.

DO NOT apply to frozen ground. Tillage prior to application is acceptable. A fall and/or a spring tillage may follow application, but DO NOT exceed an incorporation depth greater than 2-3 inches. Minimize furrow and ridge formation in the tillage operations.
Restrictions: If a spring application is made, the total rate of the fall plus spring applications must not exceed the maximum total rate for beans, peas, and lentils.

Spring Application:
Apply HELMET, either preplant incorporated or preemergence, using the appropriate rate specified below.

Preplant Incorporated or Preemergence:
Follow instructions for use of HELMET alone under Application Procedures.

HELMET Spring Use Rates in Pod Crops:
Coarse soils
- < 3% OM - 1.0-1.33 pts./A
- > 3% OM - 1.33 pts./A

Medium soils
- 1.33-1.67 pt./A

Fine soils
- < 3% OM - 1.33-1.67 pts./A
- > 3% OM - 1.67-2.0 pts./A

Restrictions:
- DO NOT cut for hay within 120 days following a HELMET application or illegal residues may result.
- DO NOT use for forage within 60 days following a HELMET application.
- DO NOT apply more than 2.0 pts./A of HELMET during any one crop year.

HELMET COMBINATIONS
Note: When applying HELMET in combination on pod crops, DO NOT cut for hay within 120 days following application or illegal residues may result.

1) Tank Mixture and Sequential Applications with Eptam-Beans (Green or Dry)
HELMET + Eptam mixture controls all weeds controlled by HELMET alone and by Eptam alone. Refer to the **HELMET Applied Alone** section of this label for weeds controlled by HELMET alone and to the Eptam label for weeds controlled by Eptam.
Preplant Incorporated: Follow instructions for use of HELMET alone under **Application Procedures.**

Sequential: Apply Eptam alone preplant incorporated as specified on that label. Follow with a preemergence application of HELMET at rates specified for HELMET alone, during planting (behind the planter), or after planting but before the weeds or crop emerge.
Refer to the **Product Information** section of this label and to the Eptam label for weather, cultural practices, and all other precautions and limitations that affect performance of these products.
Apply 2.5-4.5 pts./A of Eptam 7E* with HELMET as specified below.

HELMET Use Rates when Tank Mixed with Eptam:
Coarse soils
- < 3% OM – 0.85 pt./A
- > 3% OM - 1.0 pt./A

Medium soils
- < 3% OM –1.0 pt./A
- > 3% OM - 1.33 pts./A

Fine soils
- < 3% OM - 1.33 pts./A
- > 3% OM – 1.33 - 1.67 pts./A

*Refer to the Eptam label for rate limitations depending on geographical area and for species and varietal restrictions.

Precautions: DO NOT exceed 3.5 pts./A of Eptam 7E on small white beans or green beans grown on coarse-textured soils. Follow all restrictions and precautions on the respective Eptam 7E label and in the Beans, Peas, and Lentils – **HELMET Alone** section of this label.

2) Tank Mixture with Treflan-Beans (Dry-Kidney, Navy, Pinto, etc.; Lima; and Snap)
HELMET + Treflan tank mix applied preplant incorporated controls those weeds listed under **HELMET Applied Alone** and those weeds listed for Treflan alone on the Treflan label. HELMET + Treflan may be applied by ground or air and incorporated up to 14 days prior to planting. Follow the recommended procedures on this label and on the respective Treflan label using equipment that provides uniform 2-inch incorporation.

Apply HELMET + Treflan tank mix using the appropriate HELMET rate specified for HELMET alone, and the Treflan rate from the Dry Beans, and the Lima and Snap Beans sections of the respective Treflan label. Choose the product rate for the specific soil texture/organic matter classification and weed species expected.
Note: Refer to the respective labels and follow all directions, timings, limitations, precautions and restrictions for the use of these products on pod crops and follow the most restrictive.

POTATOES

HELMET ALONE

Apply HELMET alone, either soil incorporated, preemergence, or after hilling/lay-by, according to directions specified below for control of weeds listed under the **Product Information** section. Within a rate range, use the lower rate on coarse textured soil or low in organic matter; use the higher rate on fine-textured soils or high in organic matter. Effectiveness will be reduced if later cultural practices expose untreated soil.

Soil Incorporated: Apply HELMET at 1.0-2.0 pts./A to the soil and uniformly incorporate into the top 3 inches before planting using a finishing disk, harrow, rolling cultivator, or similar implement. DO NOT bring untreated soil to the surface at planting and during later cultural practice (or weed control will be decreased). Postplant incorporated application may be made any time after planting to drag-off but before potato emergence. Use an implement that evenly distributes HELMET in the top 2 inches of soil. Avoid damaging potato seed pieces or sprouts with incorporation equipment.

Preemergence: Apply HELMET at 1.0-2.0 pts./A, either after planting as a preemergence, delayed preemergence, after drag-off or hilling treatment, but before weeds emerge. Up to 2.75 pts./A of HELMET alone may be used where soil organic matter is between 6% and 20%.

After Hilling/Lay-by: Apply 1.67 pts./A of HELMET after hilling/at lay-by to control HELMET sensitive species for remainder of the growing season. This hilling/at lay-by application of HELMET will not control emerged weeds. It may be applied over a previous HELMET application but DO NOT apply more than 3.7 pts./A of HELMET in a single crop season.

Precautions:

- If cool, wet soil conditions occur after application, HELMET may delay maturity and/or reduce yield of Superior and other early maturing potato varieties.

Restrictions:

- Preharvest interval: DO NOT harvest potatoes treated with HELMET within 60 days after the at-planting to drag-off application, or within 40 days after a lay-by application or illegal residues may result.
- DO NOT use on muck or peat soils.
- DO NOT apply to sweet potatoes or yams.
- DO NOT apply both as a preemergence and an incorporated treatment.
- DO NOT use in Kern County, CA.

HELMET COMBINATIONS

1. Tank Mixture with Sencor

In addition to those weeds controlled by HELMET alone, HELMET applied in tank mix combination with, or sequentially with, any of the registered Sencor formulations, also controls the following broadleaf weeds: cocklebur*, hairy nightshade*, hemp sesbania, jimsonweed*, lambsquarters, prickly sida, ragweed, smartweed, velvetleaf, Venice mallow, and wild mustard.
*Partially controlled.

Apply HELMET at 1.0-2.0 pts./A plus the labeled Sencor use rate preemergence through after last hilling.

HELMET Use Rates when Tank Mixed With Sencor:

Coarse soils
- 1.0 - 1.33 pts./A

Other soil types
- 1.33 – 2.0 pts./A

Within these rate ranges, use the lower rate on soils relatively coarse-textured or low in organic matter; use the higher rate on soils relatively fine-textured or high in organic matter.
Effectiveness will be reduced if later cultural practices expose untreated soil. HELMET will not control emerged weeds. Refer to the respective labels and follow all directions, timings, limitations, precautions and restrictions for the use of these products on potatoes and follow the most restrictive.

Precautions:

- To avoid crop injury postemergence applications, with the exception of center pivot application, to potatoes should be made only as a directed or semi-directed spray to avoid chlorosis, minor necrosis, or leaf distortion.

Restrictions:

- Preharvest interval: DO NOT harvest potatoes treated with HELMET + Sencor within 60 days after application or illegal residues may result.
- DO NOT use on muck or peat soils.
- DO NOT apply both as a preemergence and an incorporated treatment.
- DO NOT use in Kern County, CA.
- DO NOT apply to sweet potatoes or yams.

2. HELMET + Lorox Tank Mixture (East of Rocky Mountains)

HELMET may be tank-mixed with any registered Lorox formulations as a preemergence broadcast application to potato east of the Rocky Mountains. Apply to the soil surface after planting and before emergence of the crop or after final drag-off according to the rates specified in Table 8 .

Table 8: HELMET + Lorox-Potatoes (East of Rocky Mountains)

SOIL TEXTURE	BROADCAST RATES PER ACRE			
	1% to Less Than 3% Organic Matter		3 to 5% Organic Matter	
	HELMET	Lorox*	HELMET	Lorox*
Coarse Sandy loam	1.0 pt.	1.0 - 1.5 lbs.	1.33 pts.	1.5 - 2.0 lbs.
Medium Loam, silt loam, silt	1.33 pts.	1.5 - 2.0 lbs.	1.67 - 2.0 pts.	2.0 - 2.5 lbs.
*When using Lorox L or Lorox DF, use equivalent rates. One pt. of Lorox L equals 1 lb. of				

Lorox DF.

Restrictions:

- DO NOT use on sands or loamy sands.
- DO NOT incorporate or spray over the top of emerged potatoes.
- Preharvest interval: DO NOT harvest potatoes treated with HELMET + Lorox within 60 days after application or illegal residues may result.

Refer to the respective labels and follow all directions, timings, limitations, precautions and restrictions for the use of these products on potatoes and follow the most restrictive.

3. Tank Mixture with Prowl 4E

In addition to the weeds controlled by HELMET alone, a tank mixture with Prowl 4E controls such problem species as kochia, lambsquarters, purslane, annual spurge, stinging nettle, and others specified on the Prowl 4E Alone label. Apply HELMET + Prowl 4E preemergence, preemergence incorporated, or early postemergence, according to the specific directions on the Prowl 4E label, using the rates in Table 9 .

Table 9: HELMET+ Prowl 4E-Potatoes

SOIL TEXTURE	BROADCAST RATES PER ACRE	
	Less than 3% Organic Matter	More than 3% Organic Matter
	HELMET + PROWL 4E	HELMET + PROWL 4E
Coarse	1.0 - 1.33 pts. + 1.0 - 1.5 pts.	1.0 - 1.33 pts. + 1.0 - 1.5 pts.
Medium	1.33 pts. + 1.5 - 2.0 pts.	1.33 - 1.67 pts. + 2.0 - 3.0 pts.
Fine	1.33 - 1.67 pts. + 2.0 - 3.0 pts.	1.67 - 2.0 pts. + 3.0 pts.
*When using other formulations of Prowl, use equivalent rates of active ingredient. Refer to the respective labels and follow all directions, timings, limitations, precautions and restrictions for the use of these products on potatoes and follow the most restrictive.		

Tank Mixture with Prowl 4E + Eptam

In addition to the weeds controlled by HELMET alone, this tank mixture will control those species on the Prowl 4E and Eptam labels. Refer to the HELMET + Prowl 4E labels for rates of those products and add Eptam 7E at 3.5-7.0 pts./A, depending on geographical area. Refer to the respective HELMET, Prowl 4E, and Eptam labels and observe all directions, limitations, precautions, and restrictions concerning the use of these products on potatoes and follow the most restrictive.

SAFFLOWER

HELMET ALONE

Preplant Incorporated or Preemergence: Follow instructions for use of HELMET alone under **Application Procedures.**

HELMET Use Rates in Safflower:
Coarse soils
- < 3% OM – 1.0 – 1.33 pts./A
- > 3% OM - 1.33 pts./A

Medium soils
- 1.33 – 1.67 pts./A

Fine soils
- < 3% OM - 1.33 – 1.67 pts./A
- > 3% OM – 1.67 – 2.0 pts./A

GRAIN OR FORAGE SORGHUM (SEED TREATED WITH CONCEP®)

HELMET ALONE

Apply HELMET, as a preplant surface, preplant incorporated, or preemergence application, using the appropriate rate specified below. Apply HELMET alone **only** when the sorghum seed has been properly treated by the seed company with Concep seed treatment. Preplant or preemergence applications of HELMET to sorghum not treated with Concep seed treatment will result in crop death.

Preplant Surface-Applied: Refer to instructions for use of HELMET under **Application Procedures.** In minimum-tillage or no-tillage systems only, apply HELMET up to 45 days before planting in CO, IA, IL, KS, MO, NE, and SD. Use only split applications for treatments made 30-45 days prior to planting, with 2/3 of the broadcast rate applied initially and the remaining 1/3 at planting. Apply 1.50 pts./A of HELMET on medium soils or 1.67 pts./A on fine soils. Treatments made less than 30 days prior to planting may be made either as a split or single application. Apply 1.33 pts./A of HELMET on coarse soils not more than 2 weeks prior to planting. Under dry conditions, irrigation after application is recommended to move HELMET into the soil.

Preplant Incorporated or Preemergence: Refer to instructions for use of HELMET under **Application Procedures.** Broadcast 1.0-1.33 pts./A of HELMET on coarse soils, 1.33-1.50 pts./A on medium soils, or 1.33-1.67 pts./A on fine soils.

Precautions:
- If sorghum seed is not properly treated with Concep seed treatment, preplant and preemergence applications of HELMET will severely injure or cause crop death.
- Under high soil moisture conditions prior to sorghum emergence, injury may occur following preplant and preemergence application of HELMET. The crop will normally outgrow this effect.

Restrictions:
- DO NOT use HELMET on sorghum grown under dry mulch tillage, or injury may occur.
- Except for the split preplant surface treatment, DO NOT make more than one HELMET application per year.

HELMET COMBINATIONS

HELMET tank mixtures with AAtrex may be applied in water or fluid fertilizer. Apply HELMET in tank mixtures only when the sorghum seed has been properly treated by the seed company with Concep.

IMPORTANT: FOR TANK MIXTURES WITH AATREX (OR OTHER BRANDS OF ATRAZINE) If applying HELMET in tank mixture with AAtrex, all the restrictions and rate limitations on the AAtrex label must be followed if more restrictive/protective than those on this label. In addition, if AAtrex is/must be applied at rates lower than those recommended on this label, broadleaf weed control may be affected. Refer to the AAtrex label for weeds controlled at the reduced rates.

Note: Certain states have established rate limitations for atrazine within specific geographical areas. Consult your state lead pesticide control agency for additional information. It is a violation of this label to deviate from state use regulations.

Precautions:

- Applications of HELMET + AAtrex on highly alkaline soils or on eroded areas where calcareous subsoils are exposed may cause sorghum injury.
- If sorghum seed is not properly treated with Concep seed treatment, preplant and preemergence applications of HELMET + AAtrex will severely injure or cause crop death.
- Under high soil moisture conditions prior to sorghum emergence, injury may occur following the use of HELMET + AAtrex. The crop will normally outgrow this effect.

Restrictions:

- DO NOT use HELMET + AAtrex on sorghum grown under dry mulch tillage or injury may occur.
- Except for the split preplant surface treatment, DO NOT make more than one application per year or illegal residues may result.

1. Tank Mixture with AAtrex

HELMET + AAtrex controls the following broadleaf weeds when applied either preplant surface, preplant incorporated, or preemergence: cocklebur, common purslane, hairy nightshade, lambsquarters, morningglory, ragweed, smartweed, and velvetleaf in addition to the weeds controlled by HELMET alone.

Preplant Surface-Applied: Refer to instructions for use of HELMET under **Application Procedures**. For minimum-tillage or no-tillage systems only, HELMET + AAtrex may be applied up to 45 days prior to planting in IA, IL, eastern KS, MO, NE, and SD. Use only split applications for treatments made 30-45 days prior to planting, with 2/3 of the broadcast rate applied initially and the remaining 1/3 at planting. Apply 1.50 pts./A of HELMET + 1.7-2 lbs./A of AAtrex Nine-O* on medium soils with 1.5% organic matter or greater. Apply 1.50 pts./A of HELMET + 1.7-2 lbs./A of AAtrex Nine-O on fine soils with less than 1.5% organic matter, or apply 1.67 pts./A of HELMET + 2-2.2 lbs./A of AAtrex Nine-O on fine soils with 1.5% organic matter or greater. Treatments less than 30 days prior to planting may be made either as a split or single

application. Under dry conditions, irrigation after application is recommended to move HELMET + AAtrex into the soil.

Restrictions:

- DO NOT use on coarse soils.
- DO NOT use on medium soils with less than 1.5% organic matter.

Preplant Incorporated or Preemergence: Refer to instructions for use of HELMET under **Application Procedures**. On medium soils with 1.5% organic matter or greater, apply 1.0 pt./A of HELMET + 1.3 lbs./A of AAtrex Nine-O*. On fine soils with less than 1.5% organic matter, apply 1.0 pt./A of HELMET + 1.3 lbs./A of AAtrex Nine-O; on fine soils with 1.5% organic matter or greater, apply 1.2-1.33 pts./A of HELMET + 1.6-1.8 lbs./A of AAtrex Nine-O.

*When using AAtrex 4L, use equivalent rates. One lb. of AAtrex Nine-O equals 1.8 pts. of AAtrex 4L.

Restrictions:

- DO NOT use on coarse soils.
- DO NOT use on medium soils with less than 1.5% organic matter.
- DO NOT use in NM, OK, or TX, except in northeast OK and the TX Gulf Coast and Blacklands areas.
- DO NOT apply preplant incorporated in AZ or the Imperial Valley of CA.

2. Tank Mixture of HELMET or HELMET + AAtrex, with Helmquat 3SL (paraquat), Landmaster BW, or Helosate Plus Advanced (glyphosate) **for Minimum-Tillage or No-Tillage Systems**

In minimum-tillage or no-tillage systems where sorghum (seed treated with Concep or Screen) is planted directly into a cover crop, stale seedbed, established sod, or previous crop residues, the contact herbicides Helmquat 3SL (paraquat), Landmaster BW, or Helosate Plus Advanced (glyphosate) may be tank mixed with HELMET or HELMET + AAtrex. See Comment below.* The HELMET or HELMET + AAtrex portion of the tank mixture provides preemergence control of the weeds listed on this label under the respective sections.

*In Minimum-Tillage and No-Tillage systems, mix with Helmquat 3SL (paraquat) for control of most emerged annual weeds and suppression of perennial weeds; or with Landmaster BW for suppression of emerged field bindweed and control or suppression of annual weeds; or with Helosate Plus Advanced (glyphosate) for control of most emerged annual and perennial weeds.

Refer to the label of each product used in combination and observe the planting details, restrictions, and all other precautions and limitations.

Application: Apply before, during, or after planting, but before sorghum emerges. Add Helmquat 3SL (paraquat), Landmaster BW, or Helosate Plus Advanced (glyphosate) and apply as directed on the product labels.

Helmquat 3SL (paraquat): Apply as directed on the product label. This treatment will not control weeds taller than 6 inches.

Landmaster BW: Apply as directed on the product label. See the Landmaster BW label for weeds controlled, listed rates for specific weeds, and other information concerning use.
Helosate Plus Advanced: Apply as directed on the Helosate Plus Advanced (glyphosate) brand label. See label for weeds controlled, use rates, and other use directions.
Note: Refer to the respective labels and follow all directions, timings, limitations, precautions and restrictions for the use of these products on peanuts and follow the most restrictive.

Apply in a minimum of 20 gals. of water per acre with conventional spray equipment.

SOYBEANS

HELMET ALONE
Apply HELMET, either preplant surface-applied, preplant incorporated, preemergence or postemergence using the appropriate rate specified below. **Preplant Surface-Applied, Preplant Incorporated, or Preemergence:** Follow instructions for use of HELMET alone under **Application Procedures.**

Preplant Surface-Applied

1) Fall Application – Apply based on the following dates for different geographic areas
MN, ND, SD, WI and North of Route 30 in IA - after September 30
NE - North of Route 91 and South of Route 30 in IA - after October 15
IL - North of Route 136 - after October 31

In all areas, apply to crop stubble after harvest when the sustained soil temperature at a 4-inch depth is less than 55°F and falling. In minimum-tillage or no-tillage systems on soils having greater than 2.5% organic matter, use 1.67-2.0 pts./A on medium-textured and 2.0 pts./A on fine-textured soils. DO NOT apply to frozen ground. A tillage operation may before the application. Application may be followed by a fall and/or a spring tillage. However, DO NOT exceed an incorporation depth greater than 2-3 inches. Minimize furrow and ridge formation in the tillage operations.
Note: If a spring application is made, the total rate of the fall plus spring applications must not exceed the maximum total rate for soybeans or illegal residues may result.

Use on medium and fine soils with minimum-tillage or no-tillage systems in CO, CT, DE, IA, IL, IN, KS, KY, MA, MD, ME, MI, MN, MO, MT, ND, NE, NH, NY, OH, PA, RI, SD, TN, VA, VT, WI, WV, and WY.
Apply 2/3 of the recommended rate of HELMET (1.67 pts./A on medium soils and 2.0 pts./A on fine soils) as a split treatment 30-45 days prior to planting. The remainder should be applied at planting. If application is to be made less than 30 days before planting it may be

applied either a split or single treatment. Apply 1.33 pts./A on coarse soils not more than 2 weeks prior to planting.

Preplant Incorporated or Preemergence

Apply in soybeans as Preplant Incorporated or Preemergence application using the following rates.

HELMET Preplant Incorporated or Preemergence in Soybean:

Coarse soils

- < 3% OM - 1.0-1.33 pts./A
- > 3% OM - 1.33 pts./A

Medium soils

- 1.33-1.67 pt./A

Fine soils

- < 3% OM - 1.33-1.67 pts./A
- > 3% OM - 1.67-2.0 pts./A

Note: HELMET may be used in soybeans up to 2.55 pts./A as a preplant surface-applied, preplant incorporated, or preemergence treatment on soils having an organic matter content between 6% and 20%. The total HELMET rate applied to soybeans during any one crop should not exceed 2.75 pts./A.

Postemergence Application

From emergence up through the 5th trifoliate leaf stage

Apply Helmet at 1.0 – 1.33 pts./A to soybeans as a postemergence application from emergence up through the 5th trifoliate leaf stage. Apply Helmet to a weed-free surface as Helmet will not control emerged weeds. If weeds are present at the time of application, Helmet may be tankmixed with products that provide postemergence control of the emerged weeds.

Restrictions:

- DO NOT apply within 90 days of harvest or illegal residues may result.
- DO NOT apply more than 1.33 pts./A of Helmet postemergence or illegal residues may result.
- DO NOT graze or feed treated forage or hay from soybeans to livestock following a postemergence application of Helmet.
- DO NOT apply a postemergence application of Helmet if a preplant surface, preplant incorporated or preemergence application of metolachlor products has already been applied.

HELMET COMBINATIONS

Water or fluid fertilizer may be used as carrier for HELMET in combination with Sencor, Lorox, Canopy, Pursuit, Scepter, Sonalan, or Command.

Note: For all of the following combinations, HELMET may be used up to 2.5 pts./A on soils having an organic matter content between 6% and 20%. The total HELMET rate applied to soybeans during any one crop year should not exceed 2.75 pts./A.

1) Tank Mixture with Sencor

HELMET + Sencor when applied as directed controls the following broadleaf weeds: cocklebur*, hairy nightshade, hemp sesbania, jimsonweed*, lambsquarters, prickly sida, ragweed, smartweed, velvetleaf, Venice mallow, and wild mustard in addition to those weeds controlled by HELMET alone.
*Partially controlled.

Apply HELMET and Sencor preplant incorporated or preemergence using the rates in Table 10 . **Preplant Incorporated or Preemergence:** Follow instructions for use of HELMET alone under **Application Procedures.**

Sequential: Apply HELMET alone **Preplant Incorporated**, as specified in Table 10 for this tank mixture. Follow with a preemergence application of Sencor during planting (behind the planter) or after planting but before weeds or soybeans emerge. Refer to the Sencor label for planting details and soybean variety restrictions.

Table 10: HELMET + Sencor - Soybeans

SOIL TEXTURE**	BROADCAST RATES PER ACRE	
	0.5% to less than 3% Organic Matter	3% Organic Matter or Greater
	HELMET + SENCOR*	HELMET + SENCOR*
Coarse Loamy sand (over 2% organic matter), sandy loam	0.85 - 1.0 pt. + 0.33 lb.	1.0 pt. + 0.5 lb.
Medium	1.0 - 1.33 pts. + 0.5 lb.	1.33 pts. + 0.067 lb.***
Fine	1.33 pts. + 0.67 lb.	1.33 - 1.67 pts. + 0.67 lb.
Mississippi Delta only Silty clay, clay	1.33 pts. + 1.0 lb.	1.33 - 1.67 pts. + 1.0 lb.
Muck or Peat (soils with more than 20% OM	DO NOT USE	
*When using Sencor 4, multiply lbs. of DF by 1.5 to get pts./A.		
**On all sand and on loamy sand with less than 2% organic matter, DO NOT use this tank mixture preemergence or the sequential treatment. DO NOT use the tank mixture preplant incorporated on any sand, loamy sand, or sandy loam or crop injury may occur.		
***Use 0.5 lb./A if applied preplant incorporated.		

Restrictions:

- DO NOT use tank mix or sequential application on soil with less than 0.5% organic matter.
- DO NOT use tank mix or sequential application on alkaline soil with a pH over 7.4 or crop injury may occur.
- If heavy rain occurs soon after application, crop injury may result, especially in poorly drained areas where water stands for several days.

2) Tank Mixture with Lorox

HELMET + Lorox when applied preemergence controls the following broadleaf weeds: cocklebur*, jimsonweed*, lambsquarters, morningglory*, prickly sida, ragweed, smartweed, velvetleaf*, Venice mallow, and wild mustard in addition to those weeds controlled by HELMET alone.

*Partially controlled.

Preemergence: Apply during planting (behind planter) or after planting, but before weeds or soybeans emerge. Refer to the Lorox label for planting details. Apply the appropriate rates from Table 11 .

Precautions: DO NOT use on soil with less than 0.5% organic matter or crop injury may occur.

Table 11: HELMET + Lorox-Soybeans

SOIL TEXTURE*	BROADCAST RATES PER ACRE	
	0.5% to less than 3% Organic Matter	3% Organic Matter or Greater
	HELMET + Lorox DF**	HELMET + Lorox DF**
Coarse	0.85 + 1.0 lb.	1.0 pt. + 1 - 1.5 lb.
Medium	1.0 pt. + 1 - 1.5 lb.	1.33 pts. + 1.5 - 2.0 lbs.
Fine	1.33 pts. + 2.0 lb.	1.33 - 1.67 pts. + 2.5 - 3.0 lbs.
Muck or Peat (soils with more than 20% OM	DO NOT USE	
*DO NOT use on sand, gravelly soils, or exposed subsoils.		
**DO NOT use on loamy sand except in the northeastern U.S. on loamy sand with over 1% organic matter.		
When using Lorox L or Lorox DF, use equivalent rates. One pt. of Lorox L equals 1 lb. of Lorox DF.		

3) Tank Mixture with Treflan

HELMET + Treflan tank mix applied preplant incorporated controls weeds listed under the **HELMET Applied Alone** section and those weeds listed for Treflan Alone on the Treflan label. HELMET + Treflan tank mixture may be applied by ground or by aerial equipment and

incorporated up to 14 days before planting. Follow the recommended procedures on the Treflan and HELMET labels using equipment that provides uniform 2-inch incorporation.

Apply HELMET + Treflan tank mix, using the appropriate rate from the **Soybeans-HELMET Alone** section of this label and the Treflan Alone section of the Treflan label for the specific soil texture/organic matter classification and weed species expected.

*To control DNA-resistant goosegrass and other species on the respective labels where the soil organic matter is 3% or less, apply the rate listed in Table 12 .

Table 12: HELMET + Treflan-Organic Matter Content Less Than 3%

SOIL TEXTURE	BROADCAST RATES PER ACRE		
	HELMET	TREFLAN EC**	
		Organic Matter	
	Organic Matter Less Than 3%	Less Than 2%	2 - 3%
Coarse	0.85 - 1.0 pt.	1.0 pt.	1.5 pts
Medium	1.0 pt.	1.5 pts.	1.5 pts
Fine soil	1.33 pts	2.0 pts	2.0 pts
* When a range of rates is given for HELMET use the minimum HELMET rate where DNA-resistant goosegrass is the predominant species.			
**When Treflan MTF or Treflan 5 is used, use comparable rates. Multiply pts. of Treflan E.C. by 1 for Treflan MTF and by 0.8 for Treflan 5.			

Note: Follow all restrictions and precautions on the respective Treflan label and in the **Soybeans-HELMET Alone** section of this label.

4) Tank Mixture with Scepter

A tank mixture of HELMET + Scepter controls all weeds controlled by HELMET alone and by Scepter alone. Refer to the **HELMET Applied Alone** section for weeds controlled by HELMET and to the Scepter label for weeds controlled by Scepter. Refer to the Scepter label for geographical locations where this tank mixture may be applied.

Apply HELMET + Scepter preplant incorporated or preemergence using rates in Table 13 . Follow use directions under **Application Instructions** on the Scepter label. For preplant incorporated applications, apply and incorporate within 30 days before planting. Observe all other precautions and limitations on the Scepter labels.

Table 13: HELMET + Scepter-Soybeans

SOIL TEXTURE	BROADCAST RATES PER ACRE			
	Less Than 3% Organic Matter		3% or More Organic Matter	
	HELMET	Scepter	HELMET	Scepter
Coarse	0.85 pt.	0.67 pt.	1.0 pt.	0.67 pt.
Medium	1.0 pts.	0.67 pt.	1.67 - 2.0 pts.	0.67 pt.

Fine	1.33 pts	0.67 pt.	1.33 - 1.67 pts*	0.67 pt.
Muck or Peat (soils with more than 20% organic matter)	DO NOT USE			
*Use the higher rate of HELMET if heavy weed infestations are expected.				

Restrictions:

- DO NOT apply within 90 days of harvest
- DO NOT graze or feed treated soybean forage, hay, or straw to livestock or illegal residues may result.

5) Tank Mixture with Canopy

This tank mixture controls all weeds controlled by both HELMET and Canopy when applied alone. Refer to the **HELMET Applied Alone** section for weeds controlled by HELMET and to the Canopy label for weeds controlled by Canopy. Apply preplant incorporated or preemergence using the appropriate rates from Table 14 .

Preplant Incorporated: Apply within 2 weeks of planting. Uniformly incorporate into the top 1-2 inches of soil before planting soybeans.
Preemergence: Apply after planting, but before soybeans emerge.
Note: Follow all use directions, varietal restrictions, limitations, precautions, information regarding application to soybeans, and rotational restrictions on the HELMET and Canopy labels.

Table 14: HELMET + Canopy-Soybeans

SOIL TEXTURE	BROADCAST RATES PER ACRE		
	HELMET		Canopy
	Less Than 3% Organic Matter	3% or More Organic Matter	
Coarse	0.85 pt.	1.0 pt.	*
Medium	1.0 pt.	1.33 pts.	*
Fine soil	1.33 pts	1.33 - 1.67 pts.	*
*Refer to the Canopy label for appropriate rate according to geographical location, soil and organic matter classification, and pH limitations.			

Restrictions:

DO NOT apply to sand, or to any soil with less than 0.5% organic matter, or to any soil with pH greater than 7.0, except as noted on the Canopy label.

6) Tank Mixture with Command*

HELMET tank mixed with Command controls all weeds controlled by HELMET alone and Command alone. Refer to the **HELMET Applied Alone** section for weeds controlled by HELMET and to the Command label for weeds controlled by Command.

Apply HELMET + Command preplant incorporated, using rates in Table 15 . Follow all Command application instructions as to incorporation interval, geographical location, equipment operation, soil moisture conditions, etc.

***Note:** Before making applications, read and strictly follow all use directions, limitations, precautions, information regarding application to soybeans, and rotational restrictions on the HELMET and Command labels.

Table 15: HELMET + Command-Soybeans

SOIL TEXTURE	BROADCAST RATES PER ACRE			
	HELMET		Command 4E	
	0.5 - 3% Organic Matter	Greater than 3% Organic Matter	Northern Area	Southern Area
Coarse	0.85 pt.	1.0 pts.	1.5 - 2.0 pt.	2 - 2.5 pts.
Medium	1.0 pts.	1.33 pts.	1.5 - 2.0 pt.	2 - 2.5 pts.
Fine	1.33 pts	1.33 - 1.67 pts.	1.5 - 2.0 pt.	2 - 2.5 pts.

7) Tank Mixture with Sonalan

HELMET tank mixed with Sonalan controls all weeds controlled by HELMET alone and by Sonalan alone. Refer to the **HELMET Applied Alone** section for weeds controlled by HELMET and to the Sonalan label for weeds controlled by Sonalan.

Apply HELMET and Sonalan preplant incorporated using the appropriate rates from Table 16.

Preplant Incorporated: Follow recommended soil preparation procedures for Sonalan. Refer to the Sonalan/ HELMET Tank Mixture label for incorporation specifications.

Sequential: Apply Sonalan alone preplant incorporated as specified on the Sonalan label. Follow with a preemergence application of HELMET during planting (behind the planter) or after planting but before weeds or soybeans emerge.

Table 16: HELMET + Sonalan-Soybeans

SOIL TEXTURE	BROADCAST RATES PER ACRE			
	Less Than 3% Organic Matter		3% or More Organic Matter	
	HELMET	Sonalan	HELMET	Sonalan
Coarse	1.0 - 1.33 pts.	1.25 - 2.0 pts.	1.33 pts.	1.25 - 2.0 pts.
Medium*	1.33 - 1.67 pts.	1.75 - 2.5 pts.	1.33 - 1.67 pts.	1.75 - 2.5 pts.
Fine*	1.33 - 1.67 pts.	2.25 - 3.0 pts	1.67 - 2.0 pts.	2.25 - 3.0 pts.
Muck or Peat (soils with more than 20% organic matter)	DO NOT USE			
*For eastern black nightshade on these soils, apply Sonalan at 3 pts./A on medium- and 3.5 pts./A on fine-textured soils, and follow with 2 incorporation passes.				

Note: Follow all use directions, limitations, precautions, and information regarding application to soybeans on the HELMET and Sonalan labels.

8) Tank Mixture with Pursuit

HELMET tank mixed with Pursuit controls all weeds controlled by HELMET alone and by Pursuit alone. Refer to the **HELMET Applied Alone** section for weeds controlled by HELMET and to the Pursuit label for weeds controlled by Pursuit. Refer to the Pursuit label for geographical locations where this tank mixture may be applied. Apply HELMET + Pursuit early preplant, preplant incorporated, or preemergence after planting using rates in Table 17 . Application may be made in water or liquid fertilizer. Follow all use directions under Soil Applications on the Pursuit label. For early preplant and preplant incorporated applications, apply within 30 days before planting.

Note: Follow all use directions, limitations, precautions, information regarding application to soybeans, and rotational restrictions on the HELMET and Pursuit labels.

Table 17: HELMET + Pursuit-Soybeans

SOIL TEXTURE	BROADCAST RATES PER ACRE		
	HELMET		Pursuit
	Less Than 3%Organic Matter	3% or More Organic Matter	
Coarse	0.85 pt.	1.0 pt.	0.25 pt.
Medium	1.0 pt.	1.33 pts.	0.25 pt.
Fine soil	1.33 pts	1.33 - 1.67 pts.	0.25 pt.

Sequential: Apply HELMET early preplant, preplant incorporated, or preemergence after planting at 0.85 pt./A on coarse soils and 1.0 pt./A on medium- and fine-textured soils. Follow with a sequential postemergence application of Pursuit to control emerged weeds according to the Pursuit label. HELMET will improve the consistency and level of control from Pursuit on most grass species. Refer to the Pursuit postemergence label for a listing of weeds controlled, application rate, and growth stage limitations.

9) Tank Mixture with Sencor, Scepter, Lorox, Canopy, or Pursuit, plus Helmquat 3SL (paraquat) or Helosate Plus Advanced (glyphosate) **for Minimum-Tillage or No-Tillage Systems**

In minimum-tillage or no-tillage systems where soybeans are planted directly into a cover crop, stale seedbed, established sod, or previous crop residues, the contact herbicides Helmquat 3SL (paraquat) or Helosate Plus Advanced (glyphosate) may be added to a tank mix of either HELMET + Sencor, HELMET + Scepter, HELMET + Lorox, HELMET + Canopy, or HELMET + Pursuit. When used as directed, the Helmquat 3SL (paraquat) portion of the tank mixture controls most emerged weeds and suppresses many perennial weeds. Helosate Plus Advanced (glyphosate) combinations will control emerged annual and perennial weeds when applied as directed on the Helosate Plus Advanced (glyphosate) label. The HELMET + Sencor, Scepter, Lorox, Canopy or Pursuit portion of the tank mixture provides preemergence control of the weeds listed on this label in the tank mixture section for HELMET + Sencor, HELMET + Scepter, HELMET + Lorox, HELMET + Canopy, and HELMET + Pursuit, respectively. Refer to the label of

each product used in combination and observe the planting details, soybean variety restrictions, information regarding application to soybeans, geographical restrictions, and all other precautions and limitations.

Refer below for rates of Helmquat 3SL (paraquat) or Helosate Plus Advanced (glyphosate), HELMET + Sencor, HELMET + Scepter, HELMET + Lorox, HELMET + Canopy, and HELMET + Pursuit, respectively.

Application: Apply before, during, or after planting, but before the soybeans emerge, at the rates specified below. Add Helmquat 3SL (paraquat) or Helosate Plus Advanced (glyphosate) at the following broadcast rates:

Helmquat 3SL (paraquat): Apply as directed on the product label. This treatment will not control weeds taller than 6 inches.
Note: DO NOT apply combinations containing Helmquat 3SL (paraquat) in suspension type liquid fertilizers as the activity of paraquat will be reduced.

Helosate Plus Advanced (glyphosate)**:** See the Helosate Plus Advanced (glyphosate) label for weeds controlled, recommended rates, and other use directions. Apply in 20-60 gals. of water or fluid fertilizer per acre with ground equipment.

HELMET + Sencor + Helmquat 3SL (paraquat) or Helosate Plus Advanced (glyphosate)
Loamy sand with over 2% organic matter - apply 1.0 pt./A of HELMET + 0.33-0.5 lb./A of Sencor.
Medium soils - apply 1.33 pts./A of HELMET + 0.5-0.67 lb./A of Sencor.
Fine soils - apply 1.33-1.67 pts./A of HELMET + 0.67 lb./A of Sencor.
* When using Sencor 4, multiply lbs. of DF by 1.5 to get pts./A.
Restrictions:

- To avoid crop injury, DO NOT use this tank mixture on soil with less than 0.5% organic matter, on alkaline soil with a pH over 7.4, or on all sand and loamy sand with less than 2% organic matter.
- If heavy rain occurs soon after application, crop injury may result, especially in poorly drained areas where water stands for several days or where the seeding slit has not been properly closed.

HELMET + Scepter + Helmquat 3SL (paraquat) or Helosate Plus Advanced (glyphosate)
Coarse soils - apply 1.0 pt./A of HELMET + 0.67 pt./A of Scepter.
Medium soils - apply 1.33 pts./A of HELMET + 0.67 pt./A of Scepter.
Fine soils, apply 1.67 pts. /A of HELMET + 0.67 pt./A of Scepter.
Restrictions:

- DO NOT apply within 90 days of harvest.
- DO NOT graze or feed treated soybean forage, hay, or straw to livestock or illegal residues may result.

HELMET + Lorox + Helmquat 3SL (paraquat) or Helosate Plus Advanced (glyphosate)
Coarse soils* - apply 1.0 pt./A of HELMET + 1-1.5 lbs./A of Lorox DF**.
Medium soils - apply 1.33 pts./A of HELMET + 1-2 lbs./A of Lorox DF.
Fine soils, apply 1.33-1.67 pts./A of HELMET + 2-3 lbs./A of Lorox DF.
** When using Lorox L or Lorox DF, use equivalent rates. One pt. of Lorox L equals 1.0 lb. of Lorox DF.
Restrictions:

- *DO NOT use on loamy sand except in the northeastern U.S. on loamy sand with over 1% organic matter or injury may occur.
- *DO NOT use on sand, gravelly soils, or exposed subsoils or injury may occur.
- DO NOT use on soil with less than 0.5% organic matter or crop injury may occur.

HELMET + Canopy + Helmquat 3SL (paraquat) or Helosate Plus Advanced (glyphosate)
Use only where soils have 0.5-5% organic matter.
Coarse soils (except sand) - apply 1.0 pt./A of HELMET.
Medium soils - apply 1.33 pts./A of HELMET.
Fine soils - apply 1.33-1.67 pts./A of HELMET.
Refer to the Canopy label for appropriate rate according to geographical location, soil and organic matter classification, pH limitations, and all other use directions.
Restrictions:

- DO NOT apply to sand, or to any soil with less than 0.5% organic matter.
- DO NOT apply to any soil with pH greater than 7.0, except as noted on the Canopy label.

HELMET + Pursuit + Helmquat 3SL (paraquat) or Helosate Plus Advanced (glyphosate)
Coarse soils - apply 1.0 pt./A of HELMET + 0.25 pt./A of Pursuit.
Medium soils - apply 1.33 pts./A of HELMET + 0.25 pt./A of Pursuit.
Fine soils, apply 1.67 pts./A of HELMET + 0.25 pt./A of Pursuit.

APPENDICES

APPENDIX A:
Compatibility Test
Since liquid fertilizers can vary, even within the same analysis, always **check compatibility with herbicide(s) each time before use**. Be especially careful when using **complete** suspension or fluid fertilizers, as serious compatibility problems are more likely to occur. Commercial application equipment may improve compatibility in some instances. The following test assumes a spray volume of 25 gals./A. For other spray volumes, make appropriate changes in the ingredients. Check compatibility using this procedure:
1. Add 1 pt. of fertilizer to each of 2 one-qt. jars with tight lids.

2. To **one** of the jars, add 1/4 tsp. or 1.2 milliliters of a compatibility agent approved for this use, such as Compex or Unite (1/4 tsp. is equivalent to 2 pts./100 gals. spray). Shake or stir gently to mix.
3. To **both** jars, add the appropriate amount of herbicide(s). If more than one herbicide is used, add them separately with dry herbicides first, flowables next, and emulsifiable concentrates last. After each addition, shake, or stir gently to thoroughly mix. The appropriate amount of herbicides for this test follows:
- **Dry herbicides:** For each pound to be applied per acre, add 1.5 level teaspoons to each jar.
- **Liquid herbicides:** For each pint to be applied per acre, add 0.5 teaspoon or 2.5 milliliters to each jar.

Note: For HELMET tank mixtures with AAtrex plus Princep, use 1/3 - 1/2 the amount of AAtrex specified above and the remainder as Princep, depending on whether the 1:2 or 1:1 ratio of AAtrex to Princep is to be applied.
4. After adding all ingredients, put lids on and tighten, and invert each jar 10 times to mix. Let the mixtures stand 15 minutes and then look for separation, large flakes, precipitates, gels, heavy oily film on the jar, or other signs of incompatibility. Determine if the compatibility agent is needed in the spray mixture by comparing the 2 jars. If either mixture separates, but can be remixed readily, the mixture can be sprayed as long as good agitation is used. If the mixtures are incompatible, test the following methods of improving compatibility: (A) slurry the dry herbicide(s) in water before addition, or (B) add 1/2 of the compatibility agent to the fertilizer and the other 1/2 to the emulsifiable concentrate or flowable herbicide before addition to the mixture. If incompatibility is still observed, DO NOT use the mixture.

APPENDIX B:
Low Carrier Application
For Broadcast Ground Application Only

Use sprayers, such as Ag-Chem RoGator, Hagie, John Deere Hi-Cycle, Melroe Spra-Coupe, Tyler Patriot, or Willmar Air Ride, that provide accurate and uniform application. **Only water may be used as a carrier**. Screens in suction and in-line strainers should be 50-mesh. Manufacturers may require that tip screens as fine as 100-mesh be used with some nozzles. Use a pump with capacity to: (1) maintain up to 35-40 psi at the nozzles, and (2) provide sufficient agitation in tank to keep mixture in sprayer thoroughly with clean water immediately after each use.

Note: Low-pressure nozzles are recommended to reduce drift and increase application accuracy. Care should be taken when using automatic rate controlling devices to spray the material within the rated working pressure and flow ranges of the nozzles selected. Nozzle screens should be used when recommended by the manufacturer. All nozzles should be placed on 20-inch centers, except flooding types which should be placed on 40-inch centers. When flat fan-type nozzles are used, angles of 80° or 110° are recommended. Always read and follow the manufacturer's directions for optimum setup and performance of their nozzles or tips.

APPENDIX C:
Aerial Application

Apply HELMET in water alone or in tank mixtures with AAtrex, Lorox, or Sencor in a minimum total volume of 2 gals./A by aircraft. HELMET may also be applied by air in combination with Balan, Prowl, or Treflan. Avoid application under conditions where uniform coverage cannot be obtained or where excessive spray drift may occur. In order to assure that spray will be controllable within the target area when used according to label directions, make applications at a maximum height of 10 ft., using low-drift nozzles at a maximum pressure of 40 psi, and restrict application to periods when wind speed does not exceed 10 mph. To assure that spray will not adversely affect adjacent sensitive non-target plants, apply HELMET alone or HELMET plus AAtrex by aircraft at a minimum upwind distance of 400 ft. from sensitive plants, or apply HELMET plus Lorox, or Sencor at a minimum upwind distance of 300 ft. from sensitive plants. Avoid application to humans or animals. Flagmen and loaders should avoid inhalation of spray mist and prolonged contact with skin.

Aerial Drift Management:

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator and the grower are responsible for considering these factors when making decisions. The following drift management requirements must be followed to avoid off-target drift movements from aerial applications to agricultural field crops. These requirements DO NOT apply to forestry applications, public health uses, or to applications using dry formulations.

1. The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
2. Nozzles must always point backwards HELMET with the airstream and never be pointed downwards more than 45 degrees.

Where states have more stringent regulations, they should be observed. The applicator should be familiar with and take into account the information covered in the **Aerial Drift Reduction Advisory Information** section below.

Aerial Drift Reduction Advisory Management:

Information on Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see **Wind, Temperature and Humidity**, and **Temperature Inversions**).

Controlling Droplet Size

- Volume - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.

• Pressure – DO NOT exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.

• Number of Nozzles - Use the minimum number of nozzles that provide uniform coverage.

• Nozzle Orientation - Orienting nozzles so that the spray is released HELMET to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.

• Nozzle Type - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid-stream nozzles oriented straight back produce the largest droplets and the lowest drift.

Boom Length
For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

Application Height
Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment
When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

Wind
Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application should be avoided when wind speed is below 2 mph due to variable wind directions and high inversion potential.

Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

Temperature and Humidity

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversions

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. The cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas

This pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive area).

APPENDIX D:

Center Pivot Irrigation Application

HELMET alone or in tank mixture with other herbicides on this label, which are registered for center pivot application, may be applied in irrigation water preemergence (after planting, but before weeds or crop emerge) at rates recommended on this label. Apply this product only through a center pivot irrigation system. DO NOT apply this product through any other type of irrigation system. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. If you have questions about calibration, you should contact State Extension specialists, equipment manufacturers, or other experts. DO NOT connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system, unless the pesticide label-prescribed safety devices for public water systems are in place. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Operating Instructions

1. The system must contain a functional check valve, vacuum-relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water-source contamination from backflow.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

3. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump or piston pump), effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7. DO NOT apply when wind speed favors drift beyond the area intended for treatment.
8. Prepare a mixture with a minimum of 1 part of water to 1 part herbicide(s) and inject this mixture into the center pivot system. Injecting a larger volume of a more dilute mixture per hour will usually provide more accurate calibration of metering equipment. Maintain sufficient agitation to keep the herbicide in suspension.
9. Meter into irrigation water during entire period of water application.
10. Apply in 1/2 - 1 inch of water. Use the lower water volume (1/2 inch) on coarse-textured soils and the higher volume (1 inch) on fine-textured soils. More than 1 inch of water at application may reduce weed control by moving the herbicide below the effective zone in the soil.

Precautions for center pivot applications: Where sprinkler distribution patterns DO NOT overlap sufficiently, unacceptable weed control may result. Where sprinkler distribution patterns overlap excessively, crop injury may result.

APPENDIX E:

Dry Bulk Granular Fertilizers

Many dry bulk granular fertilizers may be impregnated or coated with HELMET alone or selected HELMET tank mixtures which are registered for preplant incorporated or preplant surface application which are used to control weeds in crops on the HELMET label and are not prohibited from use on dry bulk granular fertilizers.

When applying HELMET or HELMET mixtures with dry bulk granular fertilizers, follow all directions for use and precautions on the respective product labels regarding target crops, rates per acre, soil texture, application methods (including timing of application), and rotational crops.

All individual state regulations relating to dry bulk granular fertilizer blending, registration, labeling, and application are the responsibility of the individual and/or company selling the herbicide/fertilizer mixture.

Prepare the herbicide/fertilizer mixtures by using any closed drum, belt, ribbon, or other commonly used dry bulk fertilizer blender. Nozzles used to spray HELMET and HELMET mixtures onto the fertilizer must be placed to provide uniform spray coverage. Care should be taken to aim the spray directly onto the fertilizer only and to avoid spraying the walls of the blender.

If the herbicide/fertilizer mixture is too wet, add a highly absorptive material, such as Agsorb® or Celatom MP-79®, or similar granular clay or diatomaceous earth materials, to obtain a dry, free-flowing mixture. Absorptive materials should be added only after the herbicide has been thoroughly blended into the fertilizer mixture. Best application results will be obtained by using a granule of 6/30 particle size or of a size similar to that of the fertilizer material being used. Generally, less than 2% by weight of absorptive material will be needed. Avoid using more than 5% absorptive material by weight.

Calculate amounts of HELMET, AAtrex, AAtrex plus Princep, Princep, Sencor, or Sonalan by the following formula:

2000 lbs. of fertilizer per acre x pts./A of liquid or flowable product = pts. of liquid or flow flowable product per ton of fertilizer

2000 lbs. of fertilizer per acre x lbs./A of dry product = lbs. of dry product per ton of fertilizer

Pneumatic (Compressed Air) Application (HELMET Alone): High humidity, high urea concentrations, low fertilizer use rates, and dusty fertilizer may cause fertilizer mixture to build up or plug the distributor head, air tubes, or nozzle deflector plates. To minimize buildup, premix HELMET with Exxon Aromatic 200 at a rate of 1 - 4 pts./gal. of HELMET. Aromatic 200 is a noncombustible/nonflammable petroleum product. Aromatic 200 may be used in either a fertilizer blender or through direct injection systems. Drying agents should not be used when using Aromatic 200.

Note: (1) Mixtures of HELMET and Aromatic 200 must be used on dry fertilizer only. Poor results or crop injury may result if these mixtures are used in water or liquid fertilizer solutions for spraying applications. (2) When impregnating HELMET in a blender before application, a drier mixture can be attained by substituting a drying agent for Aromatic 200. The use of Agsorb FG or drying agents of 6/30 particle size are recommended. (3) Drying agents are not recommended for use with On-The-Go impregnation equipment.

Precautions: To avoid potential for explosion: (1) DO NOT impregnate HELMET or HELMET mixtures on ammonium nitrate, potassium nitrate, or sodium nitrate, either alone or in blends with other fertilizers. (2) DO NOT use HELMET or HELMET mixtures on straight limestone, since absorption will not be achieved. Fertilizer blends containing limestone can be impregnated.

Apply 200-700 lbs. of the herbicide/fertilizer mixture per acre. For best results, apply the mixture uniformly to the soil with properly calibrated equipment immediately after blending.

Uniform application of the herbicide/fertilizer mixture is essential to prevent possible crop injury. Non-uniform application may also result in unsatisfactory weed control. In areas where conventional tillage is practiced, a shallow incorporation of the mixture into the soil may improve weed control. On fine- or medium-textured soils in areas where soil incorporation is not planned, i.e., reduced tillage situations or in some conventional till situations, make applications approximately 30 days before planting to allow moisture to move the herbicide/fertilizer mixture into the soil. On coarse-textured soils, make applications approximately 14 days prior to planting.

Precaution: To avoid crop injury, DO NOT use the herbicide/fertilizer mixture on crops where bedding occurs.

STORAGE AND DISPOSAL

DO NOT contaminate water, food, or feed by storage or disposal.

PESTICIDE STORAGE: This product may be stored at temperatures down to -30°F.

PESTICIDE DISPOSAL: Open dumping is prohibited. Wastes resulting from the use of this product are toxic. Improper disposal of unused pesticide, spray mixture, or rinsate is a violation of Federal law. Pesticide, spray mixture, or rinsate that cannot be used according to label instructions must be disposed of according to Federal, state, or local procedures. For guidance in proper disposal methods, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office.

CONTAINER HANDLING:

Non-refillable Container (five gallons or less): Non-refillable container. DO NOT reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Puncture and dispose of in a sanitary landfill, or by incineration, or by open burning, if allowed by state and local authorities. If burned, keep out of smoke.

Non-refillable Container (greater than five gallons): Non-refillable container. DO NOT reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Puncture and dispose of in a sanitary landfill, or by incineration, or by open burning, if allowed by state and local authorities. If burned, keep out of smoke.

Refillable Container (greater than 55 gallons): Refillable container. Refill this container with metolachlor only. DO NOT reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. For final disposal, offer for recycling or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

CONDITIONS OF SALE
AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

Follow Directions for Use of this product carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of Helm Agro US, Inc. or Seller. To the extent of applicable law, all such risks shall be assumed by Buyer and User, and Buyer and User agree to hold Helm and Seller harmless for any claims relating to such factors.

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